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ADVANCED MANAGEMENT

Quarterly Journal

The Society for the Advancement of Management

The Administration of Management Research

Preparing a Case for Labor Arbitration

The Will to Work

A Philosophy of Profit-Sharing

How Collective Genius Contributes to Industrial Progress

Discovering and Developing Leadership Abilities in Management Personnel

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Comment

OCCASIONALLY it is valuable, if not essential, to stand well away from the operating picture and consider where we are headed in terms of the several social influences which have an impact on the conduct of industry.

Three such considerations seem important to raise at this time and they are clearly interrelated. One of these is the extent in our society of what the sociologists are calling "social mobility." In other words, is it relatively easy for individuals to move up in the social and economic scale of living more readily than in previous times? Or is our society becoming increasingly characterized by a horizontal stratification which implies an increasing rigidity in our class structure?

A second vital sociological fact is the steadily increasing fraction of our young people who attend and graduate from high school.

And a third consideration is as to whether there is occurring a significant trend in the transfer of skill from men to machines. In other words, does our advancing technology make relatively greater or less demand for workers who are highly skilled and highly trained?

The problem obviously posed is that, if social mobility seems to be decreasing as more education is being received by more people and if less education and less training are required to do the factory work of our society, what new challenges may this create for those who are responsible for the management of these organizations? Is a new difficulty being created with respect to the possibility of large numbers of people getting both the satisfaction of creative expression and the sense of potential growth and progression in and through their relations to work?

Conclusive evidence which can lead to constructive answers to whatever conditions may be the fact is not easy to obtain. Yet, there is reason to believe that our underlying social situation increasingly shapes itself in a direction which may contain the seeds of serious maladjustment of individuals to society unless we consciously address ourselves to the discovery of appropriate remedies.

The extent of social mobility or class rigidity in our society can be appraised economically in terms of family income data. And, psychologically, some evidence of importance may be obtainable through a greater knowledge of personal attitudes about the sense of individuals as to their possessing any social or economic class consciousness. At present, objective evidence as to this psychological factor is virtually non-existent. But on two counts we are able to say something definite about the over-all rigidities as reflected in family incomes. On the one hand, our reliable income statistics indicate that a majority of our families get, and continue through life to get, family incomes well below $4,000 a year. How many families from time to time either rise or fall to a marked extent in their income class is not fully known but, relatively, it would appear that the number is slight. And in the second place, we know that on the average those in managerial positions (upper and lower) stand as about one to ten of those who perform the operative work in industry. With the best will in the world, it would seem that the possibilities today for large numbers of individuals and families to elevate their social and economic status is not too impressive.

The facts about the numbers and proportions of those now attending high school are a matter of public record. Between seventy and seventy-five percent of the nation's young people in the high school age group are in high school. Although there is a progressive falling away of attendance after each year of high school we are nevertheless graduating approximately forty percent of these young people. And the indications are unmistakably that this percentage will increase year by year since the objective of a high school education for all has become an integral part of our national educational program.

As to the need for relatively fewer skilled workers, a number of studies have borne out the fact that we are progressively investing more capital per worker employed, which means the use of machinery that mechanizes more and more former hand operations. Other studies indicate that the number of thoroughly trained craftsmen required to operate our total factory plant is diminishing. There have been competent estimates that, at present, at least sixty percent of our factory jobs can be trained for in less than six weeks' time and this percentage seems to be on the increase.

If, therefore, this conjunction of influences and social conditions is occurring, it means that American society is confronted by a new social situation. It seems to be a situation of increasing immobility for the common

man in respect to greatly changing the economic grouping into which he is born, along with the fact that he will get far more years of free education than his father had and also with the condition that, if he has a job in a factory, the chances for his creative satisfaction in his work may be less than in former days. All this means that managers are increasingly dealing with groups of workers who are almost sure to be possessed of different attitudes, outlooks and aspirations than was true even a generation ago.

It is not unlikely that workers thus conditioned are by way of expecting a different qualitative experience out of work than was previously true. In fact, all the attitude studies which the polling experts have supplied in recent years indicate that concern for personal status, for individual growth, for creative possibilities in work, for agreeable relations with supervisors, all constitute more important factors of employment in determining work satisfaction than do merely the terms of employment, vital though these are.

Such a change in what the workers expect and are pressing for as the outcome of their experience in the factory calls, if true, for a radical revision in managerial thinking and planning regarding the carrying forward of their labor relations.

Another way of suggesting the nature of the problem now posed to management more urgently than ever is that, until managers understand what it is that motivates workers and why, they will be in danger of failing to appeal to motives that will prompt workers to a creative and meaningful sharing in our nation's productive life.

Further examination of this kind of sociological and psychological evidence would seem to be a primary obligation upon the managers of today.

ORDWAY TEAD

The Administration of Management Research

By EVELYN BUCKLEY
Management Consultant, New York

A serious revaluation of management methods is needed in the light of significant studies of the human being in his everyday life. To resolve the conflict between the technical approach to research and the human relations approach, the writer outlines nine principles which may guide research administrators in adjusting the means of research to the ends of more economical production.

THE popular conception of the laboratory with its Bunsen burners, its retorts and its fumes, is rapidly giving way to a newer idea. We are coming to know that work situations, human actions and reactions, as for example, color effect on mood and productivity, food texture on taste buds, are phenomena which can best be studied outside the conventional laboratory — in real life conditions. The world of everyday living has been placed under a microscope, and experiment has acquired unlimited scope — even to study of the dynamics of group relationships. Indeed, studies focussing on the human being — variable factor number one — have yielded such significant results, such incontestable data, that there is already enough to warrant a serious revaluation of our long-practiced methods and procedures in the management field.

The integration of these findings with the findings in the physical sciences and their application to the smaller worlds with which we are familiar, our factories, stores and offices, is the number one job of the management researcher today.

The idea of research, of scientific experimentation, has become such an accepted part of our western civilization that we sometimes take it for granted. If we see the tools of science lying around we incline to assume that they are being used and we shall per se achieve a scientific result. Indeed it seems almost bromidic to repeat that the techniques of scientific management, the individual, separate and sometimes disparate skills, have become so well accepted by American industry that they are frequently applied without knowledge of and relationship to the larger field of scientific management from whence they derive and into which they should fit in an integrated pattern if they are to produce the highest results.

Like the proverbial shoemaker's children, management research — which has the primary aim of improving administration — suffers itself from lack of administration, or poor administration. As a result, management research often fails to produce hoped-for results. Thus industry today suffers from isolationism of its research activities. Unfortunately, in the last several decades, the training of motion and time study technicians, industrial engineers, cost accountants, and personnel researchers of various kinds has tended toward excessive specialization with a consequent failure to understand related disciplines. This results in lack of coordination of the specialized results into an integrated management picture. Hence the individual technician is frequently at work in a vacuum. Or else he works toward a narrow objective unrelated to any larger conception of his place in the total management scene.

Thus, management researchers have contributed less than they might to the solution of management problems. Some top executives are aware of the high cost of excessive compartmentalization but there are too few instances where management has taken any step to set up an organizational structure which will utilize its researches most effectively. Much management research fails to produce its highest result for the company for the simple reason that it is carried on with only a limited objective—to solve a present difficulty perhaps —i.e., "There is a bottleneck down in 'X' department, see if you can clear it up."

Such a crisis approach indicates lack of a basic philosophy. Instead of a planned and coordinated program, research is conducted on a catch-basin system. Some methods departments, like some personnel departments, pride themselves that they only go into a situation "when called upon." The need for a basic philosophy and plan for research was recognized by the early exponents of scientific management. Taylor himself said that scientific management implies a revolution in the attitude of both management and workers, and Oliver Sheldon wrote a book on the philosophy of management in 1923 that is still valid for those who would study this matter.

A piece of research is not complete when the technician lays the report on his boss's desk. It is not complete

even when a decision is made in accordance with it by the boss—i.e., to install a new procedure. Not until the workers are trained in the new procedure; have come to accept it; new costs and wages have been figured on the basis of it; the employment office notified if it should change a basic job description necessary for hiring; and top management made aware of it in view of policy considerations, does the result of research have true significance.

And this involvement deals not only with the result of research but also with the conduct of it. In any discussion of management research there is always the question—ever old and ever new—of means versus ends. Do the ends justify the means even if these means be difficult for human egos to accept? Is economical production going to be of benefit to the greatest number of people in the long run even though the means for achieving it are temporarily opposed by the economic or social attitudes of individual workers?

Conflicting Approaches

This conflict resolves itself into two main camps—the expert, or factual and technical, approach, and the human relations approach. In the early days of scientific inquiry into managerial matters the results from the strictly factual approach were so startling that it is no wonder many managements failed to appreciate that there was still a good deal of information which they were not securing because they failed to take the worker as a human being into the scheme of research.

Today there are a sufficient number of studies available to demonstrate that far more efficient results are derived from conducting research with due consideration of the means. We now recognize that the final result will depend not only on the technical excellence of the procedure developed but on the atmosphere or environment which has been created in the process. The means of going about research can bring about attitudes of suspicion and distrust, or cooperation and trust.

The exact methods and procedures, as well as organizational set-up for the coordination of research, should be tailor-made for each company. No prefabricated structure will suit all businesses alike. However, certain basic principles may guide research administrators in adjusting the means to desirable ends and in coordination of both means and results.

1. *Employee participation.*

If it is assumed that research leads to the achievement of new knowledge which in an industrial enterprise results in new procedures or new policies, then it is important to provide in the manner of conducting the research the groundwork for acceptance of the resulting procedures or policies. Therefore, the expert, or technician, directly responsible for the actual conduct of the research should be trained in two ways. He should have first of all the basic engineering and technical knowledge and skill. Secondly, he should have a background knowledge of psychology and be thoroughly trained in ways of generating worker and executive participation in the research work.

The techniques of methods and procedures studies, for instance, are not so difficult and involved that they cannot be taught to line workers. It is possible for technicians to train the workers on a job in ways of improving the work so that the resulting improvements will be as good as, if not better than, those which would have been developed by the expert working alone.

Engaging the active participation of employees in methods simplification has the advantage of demonstrating in a practical way what no amount of talking and exhortation can achieve, i.e., that it is possible to eliminate unnecessary work and fatigue without eliminating workers' jobs or ruining their livelihood.

Another reason for conducting research with employee participation is to develop a background for more effective worker-training in the new method. Studies by eminent educators and psychologists prove that active engagement of the pupil in an actual process provides for quicker learning than does mere passive absorption of lectures or reading material. Therefore, in order for the workers to have a full understanding of the purposes and methods of research they should have a share in carrying it on. There is, in addition, a valuable by-product gained when the workers aid in conducting methods analysis and improvement. For when the final procedure is determined, the workers concerned, who are to carry on that procedure, will have been trained in it, step by step, and will be familiar with the reasons why a particular part of a procedure should be done in a certain way. The motivation for cooperating with the new procedure will be present because the worker will have had a part in the determination of that procedure.

This is an important argument in favor of worker participation. Many an industrial engineer will testify to the worker resistance to new methods. Consultants have often found, after an absence of several months, that when they went back to a job the workers had slipped back into the old procedures. Habit is a powerful force and cannot be overcome *merely* with explanation and demonstration.

In one retail store organization it had been traditional

to require clerks to learn certain background information about the articles they sold prior to their first day on the job. This was accomplished by the rote memorizing of a mass of abstract and unrelated technical information. Many prospective employees became discouraged in the process and dropped out. The managers at first would not consent to eliminate that burdensome process of learning because they believed the information was necessary. It was traditional for the sales clerks to have it. However, after participating in a customer-inquiry program, during which the hundred most frequently asked questions on the part of customers were collected, the store managers volunteered a new course of basic knowledge desirable for the new sales clerk. It was observed that the practical on-the-job situation, as revealed through research, required ready knowledge of a relatively few matters and an ability to answer correctly certain typical questions. Other, more involved and less frequently called-for information and knowledge could be acquired as part of the on-the-job training—conducted over a longer period of time. Thus it was possible to put better-equipped, ready-to-start salespeople to work at once with less possibility of discouragement resulting from lack of certain basic knowledge and techniques. The store managers who participated in the research aided in setting up the new training and cooperated in the follow-up. The result is that the managers are more interested in following the success of the new clerks than they used to be because they now have a share in developing the vestibule training of these clerks. The managers are far more alert now, also, in suggesting modifications of the training to meet new situations, and they are also themselves open to new ideas.

Therefore, principle number one is that management research should be carried on with the participation of those affected. Such participation frequently results in even higher technical results than the expert could achieve working alone. In addition there are desirable by-products of fuller motivation, acceptance and training.

2. *Consideration of the human element.*

The technical aspects of a research program should not dominate the human relations considerations. There may be times when a degree of efficiency and standardization may have to be sacrificed in the effort to preserve and maintain individual differences and preferences. Sometimes a working group has developed a set of customs which have become solidified over a number of years. These sometimes have such significance for the working group that they must be given consideration when changes are contemplated.

For instance, in a certain office it seemed desirable to rearrange the desks because a straight-line flow of work would aid in having forms move faster. Unfortunately the new arrangement was decided upon and effected by the expert without consultation with the staff. After the desks were rearranged the morale in the department went down rapidly and the work was found to pile up on one woman's desk. Although technically the actual man-hours of work required to process the forms were now reduced about a third, there was no noticeable improvement in the over-all time actually spent by the operators.

Further investigation showed that the position nearest the window was considered by this group a mark of prestige (the light was excellent in all parts of the room). The worker who was now developing the bottleneck had held that position for eight years. Now her desk was moved nearer the door and a comparatively new junior had the desirable space near the window.

After re-examination of the situation in consultation with the staff, and a full explanation of the desired result, it was possible to work out a procedure which, while not as precisely efficient as the first one, was more to the liking of the staff. It permitted the worker who held the desired place to remain there. The result was higher production than was achieved with the more technically efficient procedure. Therefore it is sometimes desirable to install a less scientific method, which is willingly adopted by all the workers involved, than a truly scientific one which is objectionable.

This idea clearly ties in closely with the first principle because it is frequently possible to achieve the best procedure (both technically and humanely) by working it out with the workers concerned. It is possible that if the office clerks in this instance had been brought into the study earlier, the changes in position might have been decided upon by them. They might even have willingly given up their old custom. As it was, they probably felt called upon to defend it more vigorously than seemed reasonable because of what appeared to them an arbitrary decision. The second principle to guide in the conduct of management research is, therefore, that technical perfection should be modified when necessary in consideration of human feelings and needs.

3. *Line responsibility for research coordination.*

The actual conduct of research is necessarily a staff function inasmuch as a line worker, supervisor or executive already has a full-time job carrying on his assigned

operation. However, for the most effective utilization and coordination of the results of research, its administration should be considered as part of the line function. Ideally, a top operating official should coordinate all research—not in its detail but in its broader aspects.

In one company this is handled through a conference program in which all levels of management from first-line supervisors up to the president participate. At every level of the company the executives and supervisors are grouped into councils. The President's council is composed of himself (chairman), the Treasurer, the Executive Vice President, the Vice President of Public and Industrial Relations, and the Secretary. From there the councils fan out so that each department head has his immediate assistants in his council. The minutes of each meeting are reviewed by all the councils at each level and by the next higher and next lower levels. Special items are sent all the way through the entire range. The results of research in all departments of the business, the suggestions for new research, and reports of research in progress are included in these minutes.

Thus there is effective coordination horizontally at all levels, and vertically. The minutes of the various council meetings give the members of the top council group an opportunity to observe the statements of problems as they are developing, as well as the performance of departments at all levels. The Executive Vice President is especially charged to note the items relating to research; to catch indications of the need for new research; to review critically research progress and to be alert for opportunities to combine research efforts where possible. He, in turn is chairman of a special council composed of the heads of all research projects within the company in every part of the business.

Through this means many difficulties are brought to light well before they become too serious. And there has been an appreciable reduction in duplication of fact-gathering activities. Principle number three therefore places the burden of research coordination with some line executive at the top management level.

4. *The improvability of all methods.*

Lincoln Steffens' bequest to his son was the thought that the world has not yet seen the perfect faucet. The perfect story has yet to be written and the perfect picture painted. All matters are subject to improvement over what we now have—a vital challenge for a young man. A major portion of management research deals, of course, with methods and procedures. Because of the difficulties involved in changing procedures the tendency is to freeze a method. The pressure to retain the status quo comes from the unions and the individual workers because of the eternal fear of rate-cutting. There is also the normal human resistance to change.

There are of course many arguments against too rapid or too frequent change. Such a situation tends to create an atmosphere of uncertainty. On the other hand, there is boredom to be found in the concern where "we have been doing it this way for the past twenty years." The happy medium is an atmosphere where there is an ever present concern for: "Are we doing it the best possible way in view of present conditions?" Some methods men have tended to fall into the error of thinking that the newest method devised should be beyond improvement. A truly scientific approach would recognize that it is probably the best that can be found for the present. Suggestions for its further simplification are to be continually sought, and experiments made repeatedly. As each method is standardized it should be done with the idea that it is the best method known at the time, and under the conditions. But it does not preclude the later development of a better method.

Principle number four thus requires a continuous and open-minded search for further improvements. No method should be assumed to remain static.

5. *All extant knowledge should be utilized.*

Frederick W. Taylor, in his lecture, "Success,"* supplied a point about the scientific approach which is sometimes overlooked in management research. Mr. Taylor said that true invention is that which utilizes all present knowledge and improvements to the fullest extent, and relates them in new and significant ways, and *then,* and only *then,* supplies the new part which brings about the superior result. Invention which starts from scratch, he said, which labors through the re-invention of something that has already been worked out by someone else somewhere, is not true invention and is a waste of the inventor's time.

This philosophy of invention can well be applied to management research. It is indeed, the matrix of the coordinative process. If, therefore, a research program starts with the gathering of all the facts relating to this matter, and especially facts already developed in other parts of the company, the technician can then spend the greater part of his valuable time in developing the synthesis necessary for the solution of the immediate problem and in the development or invention of the precise additional part needed to achieve the higher result.

*"Success," A Lecture to Young Men Entering Business, By Frederick W. Taylor, presented to engineering students at the University of Illinois and the University of Cincinnati, February, 1909; later given at several other engineering schools.

An example of the lack of such use of already available information is supplied by an organization where extensive job analysis was carried on for the purpose of developing a training program. It was early evident that to train the workers in the present methods would be an inexcusable waste of money. Therefore a methods improvement program was developed as the basis for securing the proper information for training. The methods improvement program of necessity had to collect data concerning the functions and responsibilities of all the employees. This data was on file in the personnel office. Yet a job evaluation program was started under another department which required the collection of the same information concerning functions and responsibilities as were already on file. The job evaluators could have saved themselves, and the whole organization, much work had they utilized the material already on hand. And better still, if both fact-gathering processes for each of the programs could have been planned together, the information for both could have been secured simultaneously.

Thus principle number five requires each researcher to ascertain first what information is already on hand pertaining to his assignment and to make use of existing knowledge so that he can spend his higher energies on synthesis and on new development.

6. *Economic feasibility.*

Every program of management research should be viewed in terms of the relationship of the cost of the research to the returns.

The value of a method to be studied can be judged in terms of the frequency with which the method is performed, the number of persons who perform it, its relative significance in the total operation. In short, is it a key position in the sequence of methods necessary to finish an entire job?

There is another factor which some engineers overlook, namely, the significance of that operation or function in the social hierarchy of the organization. For instance, from the psychological point of view, it may be practical to start a methods study program by analyzing the work of a popular and cooperative employee. To the other workers what this operator does is desirable to do —and therefore there is value in having one's job studied.

It is also necessary to have an over-all picture of all of the methods used in accomplishing all of the work so that a sound decision can be reached concerning which to analyze and improve first.

The relationship of the methods to each other cannot be overlooked. It sometimes happens that changing a certain key process will make it necessary to change all the related processes. This point was dramatically portrayed when the accounting office changed one of its forms. An analysis conducted within the accounting office showed the need for changing its forms in order to simplify the process of taking off information for comparison purposes. The change was made and the time of the clerks in the accounting office was cut fifty percent. From the point of view of the accounting office this real saving was a sound move. However, the form was redesigned without consideration of the process of entering the information, which had to be done in the operating departments. For the supervisors who had to fill in the forms the procedure became cumbersome and annoying. The net result for the company was no actual saving in time plus an accumulation of unpleasant feeling on the part of the already burdened production-supervisory force. Since this unsound action came at a time when the unionization of foremen was being talked about, it did not help the situation.

It is sometimes difficult to ascertain in advance the value of a research program because there are some returns that are not directly and immediately measurable in materialistic or economic terms.

For instance, in a customer-interest research program in which retail store clerks participated, the information gathered was of immediate usefulness in developing a training program and in improving certain customer-salesclerk routines as well as in the modification and improvement of some non-selling procedures.

However, the long-term and almost immeasurable benefit of improved employee morale was one of the most significant gains resulting from the program. The salesclerks were enabled to see for themselves the specific results of their own and other clerks' reactions to the public as well as the customers' reactions to them. For a brief spell the tables were turned. The clerks, who were always "taking it" from the public, and who had been by custom subjected to all sorts of snooping and observation, could now see that process being applied to the customer and could see the results in tabulated form. Since the individual clerk aided in gathering the information and analyzing the results, there was a real feeling of identification with the conclusions reached. The expenditures of the company for this research were more than repaid by the factual data supplied and by the resulting efficiencies. But an extra bonus was achieved in the form of positive enthusiasm and reduction in labor turnover of the lower clerical group.

In estimating the economic feasibility of a research

program, therefore, management should have the opportunity not only to consider its dollar and cents values but also those intangible values resulting from improved public and employee relations.

Principle number six also provides that the matters to be chosen for research be selected in accordance with sound engineering principles but that the values of the psychological considerations be not overlooked. This principle further suggests that savings from improvements be reviewed on a company-wide, not departmental, basis.

7. *Management research should be planned.*

Research should be undertaken within the framework of a basic philosophy and with a planned objective. Each item of research should fit into a pattern of long-range requirements. In other words, the administration of research should be subjected to the basic rules of all administration. This involves planning and organizing, selection and training of staff, budgeting and justification of results in periodical reports.

Unfortunately research is not always thus administered. Take for instance a typical situation found in one company. The Comptroller's department was revising its procedures and drawing up new control forms. These, in turn, affected the procedures in various departments which had to fill out these forms. Simultaneously, job descriptions were being prepared for a job evaluation program. The changed procedures brought about by the Comptroller's office changed some of the jobs in the other departments. Yet the descriptions for the evaluation program were written up a few days before these changes were made. When the final job rates came out, the employees affected protested. The entire evaluation for certain departments had to be reworked. With some simple coordination carried on beforehand, the extra work could have been avoided. Also certain basic analyses could have been made for the benefit of both programs.

Principle number seven provides for the planning and coordination of all individual research activities in terms of a comprehensive long-range program.

8. *Social responsibility.*

Research technicians and administrators, as much as any group in industry, except perhaps the direct-line supervisory force, have responsibility for creating the atmosphere and environment which help shape workers' attitudes.

The very manner of going about the research—either with an attitude of secrecy, of using esoteric techniques, of trying to get something on the workers; or of taking the workers into confidence, explaining the technique and the results and with willingness to accept their ideas and suggestions—all this has a profound effect on the atmosphere of the organization.

It has long been a prime joke in the factory that there is a subtle know-how which the old-time workers have which they successfully conceal from the young, college-bred engineers. These old timers may, or may not, choose to pass on this know-how to the younger workers.

But it is almost a rule of honor that it is never to be passed on to the management man. This attitude developed partly in self-protection against the tendency for management to become increasingly the owner and jealous custodian of the skills as well as the tools of production.

Since the tools of production have become the property of management instead of the workers, the workers have only their skills left. Management through research has tended increasingly to break even these skills down and to narrow the margin of the individual worker's indispensability. Workers have retaliated by concealing the key points of many skills that they still possess.

Saving Worker's Pride

As increasing scientific knowledge concerning working methods breaks down even further the complicated jobs to their simplest elements, it becomes increasingly necessary for management to have a sense of social responsibility for saving and enhancing the worker's pride in his job. This can be accomplished in part by giving him a share in this same process of skill transference and by inviting him to participate in the process of methods analysis and work simplification. This is easier to write about than to do. For it involves the prior creation of an atmosphere of mutual trust and confidence. This is a situation for which the histories of many companies have not prepared either management or the workers.

However, somebody has to take the lead and in research work management clearly can call the plays. It is demonstrably possible to administer a research program so as to enlist the active cooperation of the workers and in the process of unfolding the program and showing results generate a positive attitude toward work improvement on the part of the workers. It is an invaluable by-product of good methods research for workers and supervisors to become improvement conscious.

Every man is interested in himself above everything else. A man's work is closely related to him and is usually his major channel for recognition. To help him improve his job and himself on it, and in the process of

doing this, to buttress the sense of dignity of work, can become a significant move in building better morale throughout a plant.

Principle number eight involves, therefore, an acceptance on the part of the management researcher of his responsibility for conserving and building the workers' pride in their jobs.

9. *The dynamic approach.*

What people are is more often correctly portrayed through how they act, than by what they say of themselves. The same is true of companies. An organization chart is supposed to be a graphic portrayal of departmental and functional relationships. However, a careful analysis of most charts in relation to the dynamic relationship of individuals will frequently show that the chart's clear-cut lines of relationship—mostly vertical, and occasionally horizontal—do not at all indicate wherein lies the real power to say "no" or the vital force for getting things done. The lines of responsibility and authority as shown on paper are frequently not those actually in existence on the production and selling fronts.

This is often true, also, of procedures. One of the most attractively put together and apparently complete procedure books proved upon investigation to be the repository of wishful thoughts. Therein were contained all the logically sound steps for completing every job to be done in the office. There was only one hitch—nobody did them that way.

Frequently analysts have made the mistake of noting these procedure write-ups, or of making flow process charts of the way people have *said* that they do things. The only sound research is that which follows through, paces out the actual process as it is being performed in a production situation. Or, in organization analysis, the observation of where the various employees actually go for confirmation, for permission, for information, advice and direction. Not where the chart says they *should* go —but where they *do* go.

Management research that does not proceed by actual observation, which accepts hearsay evidence, is superficial and can be harmful. Therefore the last and by no means least important principle is that dynamic research investigates actuality in the living situation.

Conclusion

I have listed nine principles for the effective administration of management research in line with recently acquired knowledge of sound human relationships. American industry has the superb opportunity through the use of such principles to extend our American form of democracy into the factory, the office and the store and to help weld the worker-power of this country into an invincible front against all aggressions.

Preparing a Case for Labor Arbitration

An Excerpt From the Forthcoming Book, Management-Union Arbitration*

By MAXWELL COPELOF

Impartial Arbitrator and Permanent Umpire Under Numerous Union Agreements

THOUSANDS of disputes that might seem to be headed for arbitration never reach that stage. Why? Just because one side or the other, in reviewing the issues and preparing testimony or exhibits, finds some previously undisclosed fact, or detects some flaw in its position that would invariably result in loss of the decision. There is no disgrace in an honorable retreat. If the position of the company or the union is known to be untenable in advance of the arbitration hearing, it is far better to withdraw the case entirely. Most arbitrators are much too busy to have to waste time in listening to lost causes.

An arbitrator's decision can be expected to go to the party which is in the right when all the facts have been carefully investigated and honestly presented. Preparation of a case includes defining the question to be arbitrated, studying the history of contract negotiations, collecting evidence at the scene of a disputed incident, adequately preparing exhibits, interviewing witnesses in advance.

What has just been said points to the imperative necessity for thorough preparation on the part of both sides for all types of arbitration cases. Eloquent oratory or brilliantly reasoned but specious arguments are no substitute for facts. The arbitrator is quick to see through any stratagems that are designed to obscure the real issue or hide the absence of a factual basis to support the position of each contestant.

Unless the relationship between both parties and the arbitrator is of the most casual and informal nature, and there is a desire to let the arbitrator decide any and all questions that may be raised by either party at an arbitration hearing, it is imperative that each issue in dispute be reduced to writing and the exact question to be decided by the arbitrator be clearly defined. If this procedure is not followed, much time will be consumed and there will be much tilting at windmills at the arbitration hearing before the parties really get down to business.

The bulk of all arbitration cases arises from unsettled grievances involving contract interpretation. The grievance itself may be somewhat vague. The management may not really understand what the union is shooting for. The union representatives often bring up apparent injustices or contract violations, not for the purpose of trying to exact a penalty from the management, but rather to get a clarification of the contract and an agreement upon the course of action to be followed in the future in applying a given contract clause. Hence the importance of finding out and putting in writing the real issues in dispute that both parties wish the arbitrator to decide. When the questions to be arbitrated are put in written form and agreed to by the company and the union, these questions form what is called a "submission for arbitration." Appropriate language for such submissions can best be suggested by examining typical submissions in a wide variety of cases. In Chapter IV and other chapters of this book the submissions of actual cases are quoted in considerable numbers.

Sometimes, despite their willingness to have unsettled disputes submitted to arbitration, the parties cannot agree among themselves as to the precise phrasing of the submission. Then it becomes necessary to work out the language of the submission at the arbitration hearing itself. When this happens, the arbitrator usually devotes the opening phase of the hearing to an informal discussion and presentation of the issues by the management and labor spokesmen. With the approval of both sides the arbitrator himself may work out the questions and frame the submission in suitable language. However, unless the contract vests in the arbitrator full authority to decide any question raised by either party, there must be actual agreement by the management and the union on the phrasing of the submis-

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sion before the arbitrator can proceed to hear the case and make his award.

It is still more important to have carefully and precisely worded submissions in disputes involving the terms of new agreements. Suppose there is a deadlock on a question of union security. Management offers nothing. The union originally asked for a closed shop but it has indicated its willingness to settle for maintenance of membership and the check-off. What is the arbitrator to decide? If the submission should be framed to read "What type of union security clause shall be embodied in the contract," the arbitrator would be entirely free to go beyond the final offer of the union and award a union shop or closed shop clause.

Disputes over wage clauses in new contracts could give rise to the same sort of arbitration awards. Assume an impasse has arisen over the demand of a union for fifteen cents an hour and the management offer of five cents an hour. Both parties are genuinely sincere and firm about their final offers in submitting the question to arbitration. Should the arbitrator be empowered to allow no increase at all? Or an increase of thirty cents an hour? Obviously not. No seasoned arbitrator would do either of these things. Still it is important, in framing the terms of the submission, to set terminal limits on the arbitrator's authority. These limits usually represent, on the low side, the company's latest wage proposal, and on the high side, the amount of increase that the union is willing to accept.

There may, however, be exceptions from the conditions just cited that would justify giving an arbitrator an entirely free hand in making a wage award. Possibly the union, in an earnest desire to avoid a strike, has lowered its wage demands far below what its officers and members think would be a proper settlement. Perhaps the company likewise made a higher wage offer than it feels has economic justification. On the basis of the economic situation of the company concerned, and possibly the situation in its entire industry, both sides are convinced that their compromise proposals are respectively too low and too high. In such circumstances it may be entirely appropriate to place no minimum or maximum limits on the arbitrator's discretionary authority. Then if the facts so indicated, he might decide that no increase was justified, or he might award a wage adjustment considerably higher than the amount that the union was willing to accept in order to avert a stoppage.

There have been instances in which the willingness of either side to change its mind and to agree to arbitrate wage disputes, after having firmly resisted arbitration, are considered sufficient basis for an arbitrator to go above or below the last wage proposals of the parties concerned in making his decision.

Advance Preparation

In most important cases, the persons representing the management and the union are not the same ones who handle the dispute in its initial stages. Both sides ordinarily view, and always should view, arbitration proceedings important enough to warrant their being represented by the best-qualified spokesmen. In the case of a multi-plant company, it may be the personnel director or one of its legal staff who is well-versed in labor relations. The union spokesman may well be an international representative or an attorney.

Ascertaining the Facts

The representatives for both sides invariably want to go over the entire situation well in advance of the arbitration hearing. The advance review may bring about great surprises. The local management, for example, may be so convinced of the soundness of its position that it has failed to ferret out all the important facts. The officers of the union local likewise may be sure they are right and have failed to dig deeply into the entire situation. If the case involves a discharge which the union protests as being without sufficient cause, it may well happen that a foreman was out to get a man and fired him for an offense that he had long tolerated on the part of other workers. Accordingly the management will want to determine, by careful review of all relevant circumstances, what was done or not done in the way of disciplinary action.

It is only human nature for an employee protesting his discharge to put his best foot forward in explaining the circumstances to union officials. In his initial story he may deliberately or unintentionally fail to disclose some pertinent fact. The union representative, in preparing for arbitration, will want to make absolutely certain that the discharged employee was telling the truth and the whole truth.

It is equally important for company spokesmen to get all the facts first, regardless of how sure they are that they have an iron-clad arbitration case. In one case which actually took place, the company was so certain that it "had the goods on" an employee who had been discharged that it did not take the trouble to search out all the facts and to ascertain whether it did have sufficient grounds for firing him. The union filed a grievance in behalf of a youthful worker, claiming that he was unjustly discharged. When the unsettled dispute over

the discharge finally came to arbitration, the union spokesmen related the boy's side of the story. This was that he had been smoking, as charged by the company at the hearing, but that when he was suddenly told one day that he was being let go, neither the assistant foreman, under whom he worked, nor the foreman, nor the personnel office had been able at that time to tell him the actual reason. Further than that, the union pointed out, the assistant foreman himself was known to have taken time out to smoke.

But at the hearing, the company spokesmen asserted that on several occasions the worker had been caught spending too much time in the men's room smoking. They further stated that when he had been asked several times to abstain, he refused to obey.

The arbitrator then questioned the worker. When he asked him to tell under oath how many times he had been spoken to about wasting time, the boy's reply was "Once." Then when the foreman and the assistant foreman, who were witnesses at the hearing, gave their side of the testimony, it developed that their stories of the reason for the discharge so contradicted each other that the arbitrator could give credence to neither of them. The only reason for the firing that was apparent to the arbitrator was a groundless personal dislike for the worker on the part of the foreman. This of course he did not consider sufficient grounds for discharge.

The company, realizing that it had not prepared its case well and had failed to assemble all the pertinent facts beforehand, volunteered to reinstate the boy and gave him back-pay for the time lost while he was out.

As previously indicated, there have been innumerable instances where a bombshell has been exploded at the hearing, to the great surprise and consternation of the management or the union. Surprise evidence may be admitted to demolish the position of one side or the other. But it does not follow that either party should withhold all of their evidence at the earlier stages of the grievance procedure when it might be possible to settle a dispute without resort to arbitration. Yet there are instances when either side is so firm in its insistence that the case go to arbitration that the only prudent course to follow is to reserve the surprise evidence for initial presentation to the arbitrator.

Having Ready Access to Proof

If the dispute to be arbitrated involves the proper classification of a job, written job descriptions for the work should be reviewed and a determination made as to whether or not the employee's actual duties coincide with the description. It is not what is written on paper that counts in determining how a man's job should be classified or what rate he should receive. The written job description is of course important. But it is what the man does and has been doing on his job rather than what the company months or years ago decided he should do that carries most weight in arbitration proceedings. Consequently the union as well as the management, in preparing for a case of this kind, will want to get all the facts as to the real nature of the employee's duties and as to any changes in his work assignments since the original job description was prepared.

If the dispute involves, say, the adequacy of a pay rate, there is no substitute for facts in bringing about proper disposition of the case. The arbitrator will want to know first what the applicable contract clause is and if this clause enables the union to protest and take to arbitration, if necessary, any newly established rate that is set too "tight." Then he will want to hear or see proof from both sides as to the propriety of the rate. No amount of argument will prove a satisfactory substitute for factual information. If the process is an intricate one or the machine one not commonly used throughout industry, the arbitrator should be provided with diagrams or illustrations. Even better, he should be permitted to view the machine in actual operation under as nearly normal conditions as possible. Some companies, for reasons best known to themselves, are often unwilling to let an arbitrator go to the department involved in the dispute and get first-hand information on the ground. This may be a most short-sighted attitude if they are convinced they are on good grounds and have any real desire to win their case. Concealing information directly or indirectly and more particularly by refusing to let an arbitrator get first-hand information invariably raises a question as to the motive of the management in being unwilling to let all the facts be known.

It is not enough for the union merely to contend that a rate has been set too tight. If it is to be successful in challenging the propriety of the rate, it too has an obligation to present factual evidence. How long have the employees concerned been on this particular incentive job? What have their actual earnings been? Can it be established that they are thoroughly competent workmen and that they have tried their best to produce enough to earn a satisfactory premium? Have new elements been introduced by the rate-setters that were not common to the rates established on other jobs? These and many other questions have an important bearing on the case. If neither side voluntarily brings out all the facts, the arbitrator himself will wish to elicit the pertinent information. To be sure, it is usually possible to

present post-hearing statements on questions raised at the arbitration hearing, on which neither side was immediately prepared to give the answers. It is better, however, to anticipate the questions and be prepared to give the proper answers and any appropriate explanations therefor while the arbitration hearing is in progress. Then there are the types of cases which involve interpretation of seemingly unclear or ambiguous contract clauses. Representatives of both parties should dig thoroughly into the history of the contract negotiations. Was a clause omitted from the present contract that gave either to the management or to the union certain well defined rights in the previous contract? Was a clause that the union considered undesirable or unworkable bargained out of the contract without a specific reference to its omission in the new contract?

A specific illustration might be cited. Assume the present contract stipulates all employees with five years' service as of June 1 of the current year are entitled to two weeks' vacation pay. Three employees are discharged on June 15. The union asserts that since each of them has had at least five years' service they should be given two weeks' vacation allowance at the time of their discharge. The company points out that there is nothing in the contract requiring payment for vacations to persons whose services have been terminated. That is entirely true. But in the previous contract there was a clause stating in effect that no vacation allowances would be payable to persons leaving the employ of the company for any reason. The union had objected to continuation of such a clause in the new contract. It won its point. It failed, however, to insist on the inclusion of a clause expressly guaranteeing to all employees their right to vacation pay upon discharge. The history of the negotiations in such a case will be given much weight by the arbitrator. If the intent of the parties as disclosed by the testimony of either side was to eliminate the restriction on vacation rights for discharged employees, the arbitrator would no doubt hold that the persons dropped from the payroll during the vacation period, if otherwise eligible by reason of length of service, are entitled to vacation pay.

Conceivably, no contract clause can be cited by either party as determining the proper solution to the question in dispute. The issue may be a departure from past practice that, in the opinion of the union, had been so well established by custom and precedent that no specific contract clause seemed necessary. Perhaps the issue was such a simple one as a "coffee hour." Perhaps the employees of the plant and the employees of all other plants in the neighborhood had since time immemorial been permitted to leave their jobs once or twice a day to have near-by diners send in coffee each day at regularly scheduled times. Then the management decided that this practice interfered with efficiency and insisted that it be stopped. In the absence of a contract clause giving the company unfettered right to change its shop rules or working conditions at its own discretion, there would be nothing for the arbitrator to go on except the established practice in the company and the community. Here the burden of proof would be on the union that the withdrawal of coffee-hour privileges went counter to the established practice. And it should be prepared to back up its contention with detailed facts not only as to what had gone on in the company itself over a considerable period of time, but what actually were the practices in other concerns in the area.

In all discharge and disciplinary cases, it is essential to prepare factual evidence to show the nature of the job record made by the employee or employees involved. Is the offense with which the employee is charged sufficient in and of itself to warrant dismissal or lay-off? Or has there been an accumulation of more or less serious offenses, with the latest one being the final straw? It might happen that the management has singled out a particular individual for ultimate discharge and has carefully accumulated evidence of petty foibles or misdoings. On the other hand, the worker might actually have had a long history of unsatisfactory output or poor conduct without having engaged in any single offense which all by itself could be regarded as a proper cause for discharge. The company representative who is to present the case should familiarize himself not only with the factual incidents but with the management's motives. If the motives seem questionable and if the evidence is likewise dubious, he will probably want to get a settlement instead of proceeding to arbitrate. Conversely, if the union representative takes the pains to search out all the circumstances leading to the discharge or other disciplinary action against an employee and finds that the last offense may have been trivial but that the worker involved has had a long record of unsatisfactory performance, he too may wish to seek a settlement instead of proceeding to arbitrate a lost cause.

Collecting Evidence "at the Scene of the Crime"

Whenever it appears to either side that an incident may ultimately go to arbitration, all the pertinent facts should be obtained and recorded while the incident is still fresh in the mind of everyone concerned. Take a fight between two employees, for instance, that results in the discharge of the alleged aggressor. The discharged

employee may contend that he was unduly provoked by the other person or that there were extenuating circumstances that made a lesser penalty than discharge the only proper thing to assess. Ordinarily, several weeks or even months elapse before a dispute of this kind is handled in the successive stages of the grievance procedure and ultimately goes to arbitration. In the meantime, some of the witnesses to the brawl may have taken other jobs. They might have moved to other localities. It is always difficult if not impossible to induce former employees to travel considerable distances to appear at arbitration proceedings. Then too their recollections of the incident may have faded, regardless of whether or not they are still in the company's employ at the time of the arbitration proceeding.

Thus it is desirable when cases arise where union or management actions may be later disputed for both parties to get detailed written statements from the witnesses as soon as possible after the event.

Unless the arbitration proceeding is conducted by a lawyer or a person with legalistic tendencies who insists on observance of strict rules of evidence and conducts the hearing on a courtroom basis, both parties will be permitted by the arbitrator to submit in evidence written statements by witnesses for whom there is valid reason for their not appearing at the hearing. It is true, of course, that there is greater value in having an eyewitness appear and testify personally and subject himself to cross-examination by the other side. Even when this is impossible, there is still an advantage in getting his full and freely stated version of the incident in writing and signed by him immediately after he has seen whatever happened that led to the dispute.

If the witness who has prepared and executed a statement as to what he had observed cannot appear in person at the hearing, there are entirely proper ways to substantiate that he actually had made the statement that is introduced in evidence. Should it be the union that is introducing the statement, the shop steward or other union official who requested him to make the statement can testify that this individual actually dictated the statement in his presence. The union stenographer who took the dictation can be present as a witness that she actually took down verbatim everything that the individual had said in the statement and that she saw him sign it. Naturally the same type of evidence can be presented by management when witnesses in its behalf cannot appear at the arbitration hearing.

Here is a case in point and it is an actual case. The full story of the dispute is set forth in Chapter VI. The factor pertinent to the issue under discussion was whether or not Mr. R. was actually intoxicated when he reported for duty as a deck man on a ship. When he showed up for work the mate of the ship, thinking he was drunk, told him to go and see the operator of the vessel, presumably to be discharged. Two international representatives of Mr. R.'s union happened to be present when all this happened. They at once took Mr. R. to a clinic to get a sobriety test. When the clinic refused to make such a test, they took him to a private practitioner, who gave him an examination and issued a statement to the effect that Mr. R. could not have been intoxicated at the time when he reported for duty. Obviously, there was only one chance to obtain this sort of evidence and that chance occurred within an hour or so after the employee was suspected of being drunk.

Use of Contradictory Testimony

Another type of usable evidence is that obtained from prior proceedings perhaps of an entirely different nature. Thus if an employee claims he is physically able to do a given job and was unjustly discharged on the grounds of physical incapacity, the employer has the right to refer to and use the employee's testimony at a workmen's compensation hearing where he sought to obtain an award for permanent or temporary disability. A case of this sort is described in Chapter IV. In this case, the company brought out the fact that, at a compensation hearing a few months earlier, an employee had contended that an occupational injury had so disabled him as to prevent him from performing his usual duties. Of course the arbitrator was obliged to weigh all the testimony, but he could not fail to be impressed by the fact that before one tribunal and for the specific purpose of getting a monetary advantage, the employee insisted he could not do his job and that later, when he was removed from the job because of this testimony, he asserted he had no physical impairment.

Value of Preparing Surveys

The types of evidence that are useful in preparing cases where new contract clauses are in dispute will naturally depend upon the nature of the unsettled issues. When the wage clauses of an unfinished contract are referred to the arbitrator without limiting him to resolve the difference between the latest demand of the union and the company's latest counter-proposal, all sorts of factual data may be found relevant. To cite a single illustration, here is an actual set of questions propounded by the arbitrator to the parties in a wage dispute, when neither side came to the arbitration hearing prepared to substantiate its position by factual evidence.

1. What are the rates paid by competing firms for same or very similar work?
2. How do annual earnings of workers compare with annual earnings of workers employed by competing firms?
3. What are the rates paid by other firms to workers of similar occupations, in non-competitive lines, in the vicinity?
4. What consideration is given, when rates are set, to skill required, dexterity acquired, length of service, etc.?
5. Has consideration been given to recent increases in cost of living?
6. Should company's financial showing be given special consideration?
7. What effect will a wage increase have on the company's future ability to compete successfully in its usual market?
8. Will an adjustment in wage rates tend to accelerate production, and will failure to do so tend to encourage production stinting?
9. Will increased plant output provide, through reduced overhead cost, a margin for wage increase without actually increasing total labor cost?
10. Will a wage adjustment aid in the promotion of better understanding, more cooperation, and improved relationship between management and employees and the union?
11. What justification can be presented for declining to grant the increase asked by the union or any part of it?

In this case the parties concluded during the course of the arbitration hearing that an outside survey should be made to determine the rates paid for comparable work by competing companies in the industry. The arbitrator himself was requested to make the arrangements for the survey and the facilities of the United States Department of Labor were obtained for this purpose. Much more frequently, both parties will make their own wage surveys to demonstrate prevailing conditions within the industry or community. Then it is incumbent upon the arbitrator to weigh the conflicting evidence on its merits and in so doing he will give due consideration to the thoroughness and accuracy with which the data had been compiled, as well as to the pertinence of the data obtained from other companies to the wage situation of the company concerned in the dispute.

Time and again, especially when attorneys represent the parties in dispute, the arbitrator will be confronted with all sorts of citations, or of prior decisions made by him or other arbitrators. These citations, the parties will argue, should be construed as establishing binding precedents and should control the settlement of the current case. Unfortunately, from the lawyer's standpoint, this just doesn't work. No previous arbitration award is binding upon any arbitrator. It is his function to adjudicate the current dispute. In so doing, he is bound to decide it by interpreting the applicable contract clause, if there be one, or on the basis of the merits of the particular situation, if the contract itself is silent on the issue in dispute.

Nevertheless, there is some value to the use of prior arbitration awards in the preparation of new cases. Earlier decisions point the way to what arbitrators have considered especially pertinent or relevant. At the most, they indicate how a case is likely to be decided if all relevant facts are substantially the same.

In actual practice, no two cases are identical. Usually there are differences in contract language. Invariably there are differences in the actual situations to which the contract clause applies. Then also it is the arbitrator's duty "to call his shots as he sees them." Perhaps an earlier arbitrator, in making a decision on a dispute involving the same contract clause, made a serious mistake. The new arbitrator does not have to perpetuate that mistake. Indeed, it is his duty to correct it, at least to the extent of rendering the proper decision in the case before him.

What the lawyers refer to as the doctrine of *res judicata* does not apply to arbitration proceedings. *Res judicata* means simply that a matter once decided by the courts cannot be brought into the same or a different court for entirely new legal proceedings. Not so with arbitration. Assume that in an earlier contract the management and the union had negotiated an elaborate set of clauses relating to overtime pay. The clauses were so loosely worded that the union took the position that they meant that a person who had worked a normal five-day week from Monday to Friday and then put in eight hours on Saturday was entitled to triple pay for his Saturday work. Why triple pay? Because the contract provided for time-and-a-half for all work performed in excess of forty hours a week and also provided for time-and-a-half for all work done on a Saturday. The union might have convinced an arbitrator that these contract provisions actually called for the compounding of the overtime premiums and that therefore triple pay was required under these circumstances.

Then suppose that in negotiating a new contract the parties left unchanged the earlier language respecting

payment of overtime. A new dispute arose concerning the proper basis for payment to employees working on a Saturday, having put in a regular forty-hour week. The dispute could again be arbitrated. No doubt the new arbitrator—or even the previous arbitrator, if he were designated to hear the current case—would admit in evidence the earlier decision bearing upon the same point. But he would not be bound by it under any conditions. He would be obliged to hear all of the evidence and consider all the arguments. Fresh material might induce the arbitrator who had heard the same case previously to reverse himself. If the facts warranted it, a new arbitrator would undoubtedly reach a decision contrary to the previous one. In any event, he would have the power to do so.

Preparation of Exhibits

Regardless of the nature of the dispute to be arbitrated, there will invariably be written documents to be presented in evidence. The contract itself is ordinarily the first exhibit to be introduced. If the contract has not been reproduced in printed form, a typewritten copy should be prepared for the arbitrator. Or if the question involves a single contract clause, a copy of that should be presented to the arbitrator.

Any affidavits or other statements to be presented at the hearing should be duplicated with copies provided for the arbitrator and the opposing party. Similarly, when exhibits in the form of wage tabulations, production records, and so forth are to be introduced, these too should be duplicated so that the arbitrator and the other party can inspect copies when they are presented in evidence.

Occasionally, the arbitrator will himself raise questions at the proceeding which will necessitate preparation and submission of statistical data after the hearing is over. Whenever possible, both parties should anticipate the arbitrator's request for factual data and have all material at hand when the hearing begins. If however this is not possible, and it becomes necessary to submit to the arbitrator exhibits or statements of one kind or another after the conclusion of the hearing, the established practice is to furnish to the other party a copy of any document that is forwarded to the arbitrator.

There is something formidable and impressive about an affidavit. Indeed, if statements are obtained in advance of the hearing from persons who may or may not be called upon to testify as witnesses, there may be some advantage in having the persons swear to their statements before a notary public. And yet, as a matter of common knowledge, a person who is inclined or impelled to make a false statement usually has little compunction about swearing to his falsehood. Therefore, most arbitrators will give as much weight to a simple non-legalistic statement prepared in layman's language and merely signed by the person making it as they will to the most legalistically prepared affidavit with all its whereases, and so forth.

Advance Interviews of Witnesses

No lawyer would put a witness on the stand without knowing in advance what the witness was going to say. That does not mean that the lawyer should or would put words in the witness's mouth. In this one respect arbitration proceedings are comparable to courtroom trials. If it appears to the arbitrator that a witness has been coached to say only the things favorable to his side of the case and to conceal or ignore the unfavorable aspects, the arbitrator will be inclined to question his integrity and discount the credibility of all he says. Some management and labor representatives, in presentation of arbitration cases, try to prove too much. They do not want their witnesses to tell the whole story. Hence they may try to influence the persons who testify in their behalf to give a biased slant to their statements, or to minimize or ignore certain essential particulars. This sort of tactics invariably makes a bad impression. The arbitrator's duty is to render even-handed justice within the framework of the contract or the terms of the submission. Any attempt by either side to prevent its witnesses from giving the whole picture as they know it, either by coaching in advance or by efforts to shut off their testimony during the hearing, is likely to prove a boomerang.

* * *

No Special Techniques Necessary

By far the majority of arbitration cases are presented by laymen. There are no special tricks of the trade. There should be none. All that is necessary is careful investigation of the facts and straightforward presentation of the facts. Trickiness is no substitute for honesty and complete candor. With thorough preparation and complete presentation of all the evidence, it is to be anticipated that the arbitrator's decision will go to the party that has been right all along.

The Will to Work

*The Greatest Resource of American Industry**

By PHILLIPS BRADLEY

Director, Institute of Labor and Industrial Relations, University of Illinois

WE CONFRONT two basic issues in our time in the western world. The first is whether we can construct and operate a system of world government capable of preventing war. The second is whether we can create those conditions in labor-management relations which will aid in maintaining a free society and a free economy along with a continuously increasing productivity.

We do not appear to be achieving as effective a will to work as we might expect. Management can tap this greatest potential among the resources at its command by taking into account the workers' response to economic environment, their capacities for high productivity, their social incentives, their own experiences of the effects of increased productivity, their desire for a share of the profits, and their working conditions.

These two questions are obviously closely related. Although we shall be looking particularly at the second, we need to keep constantly in mind their inescapable connections in our time. If we can prevent war we can hope to maintain our free society and our free economy and develop our industrial system to higher levels of productivity. If we succeed in maintaining and increasing our productivity, we shall have taken one important step toward preventing war in the future.

When we look at our economy—our free enterprise system—there seem to be two tests to apply in appraising its working efficiency. The first is how well it maintains and advances productivity, whether in new goods and services or in their distribution. Whatever economic system, operating on whatever system of ideas, succeeds best in promoting increased productivity will have a strong claim to the allegiance of labor and management alike. But the second test is no less important a test of the efficiency of an economic system. It is how effectively it creates a high level of employment and an acceptable level of social security for all the people.

Here, again, these two questions are interdependent aspects of any economic system. They are, in our time, the litmus paper of other systems as well as our own. The second cannot be achieved unless the first is attained. If it is, the second is almost certain to result—at least so long as we maintain our fundamental democratic processes of free elections and freedom of thought and expression. We may note in passing, moreover, that freedom in society and freedom in economic affairs are also apparently mutually interdependent—and mutually effective, or the opposite.

The questions we shall explore together relate particularly to our economic way of life— the ideals we hold about it, the responses we make to it, the uses to which we put it. If our economic system, or any other, is to meet the two tests I have suggested, then ideas and responses must be converted into use or practice by the people who operate the system. We may, therefore, profitably examine these ideas and responses and the uses and practices generated by them with a view to applying the first of the tests just noted, the test of higher productivity. If we meet this test we shall also win out on the other—a high level of employment and an acceptable standard of social security for all the people. I shall, therefore, raise several questions about this test of productivity, and examine what seem to be some of the answers from our present experience. If we can find effective answers to these questions, we shall have gone a long way toward achieving more cooperative labor-management relations and so toward maintaining a free society and free economy.

My first question is: Are we achieving as effective a will to work as we might expect, and as we need, if we are to maintain and advance our productivity? The answer appears to be no. We have not yet apparently tapped the full human resources at our command. Until we do, the two tests of our economic system will not be met as efficiently as the system itself makes possible because it is a free enterprise system rooted in a free society.

*An analysis presented before the Cincinnati Chapter, S.A.M.

I shall try later on to break this negative answer down into a number of the reasons behind it. Before doing so, however, it is well to underline again that productivity is a combination of technological and human factors. The wonders of invention and of technological advance for the past quarter century or so have blinded many people to the fact that the other element in productivity, the human element, is probably even more significant—if we could find out how to release and use it more effectively. The increase in manufacturing productivity is now going on at something like three percent per year as a result of improved technological machinery and procedures. Many experiments and observed results indicate, indeed have demonstrated in practical tests in industrial plants, however, that this increase in the ratio of productivity could be materially raised if we knew how to release the will to work on the part of those who make production possible.

Fear Incentive

When, therefore, we look at the human side of the equation, we must note the various stimuli which some people have put forward as ways of releasing and utilizing the will to work. We need not perhaps analyze in detail the Fascist and Communist stimuli to industrial production which instil fear in the individual as an impetus toward greater productivity. We may note in passing, however, that some people in this country are saying that there would be "nothing like a nice little depression to put the workers in their place." I have heard that statement in the last year or so and I am sure that many others have also. It reminds me of the comment which Leon Henderson is said to have made when a number of distributors asked him, in the early days of OPA, to lift some price ceilings which they thought were squeezing their margins a little too hard. They commented that "a little inflation would be a good thing." Mr. Henderson replied that he thought inflation was a good deal like pregnancy—once started it was pretty difficult to stop until it had run its course. The incentive of fear does not seem to give us any very long run or effective stimulus to the will to work.

Other people seem to feel that wage incentives will produce greater productivity. Although this is undoubtedly true in many situations, we shall want to examine it more in detail later on. It is also true that most workers do not seem to regard wages as such as the major factor in their response to their work situation. Both the wage incentive and the fear incentive are negatives; they do not enlist the positive cooperation of people in an enterprise in which they feel a sense of belonging. It is probable, therefore, because these two incentives which have been tried in the past are essentially negative, that the answer to our first question must be found elsewhere—in more positive incentives. Let us, however, look at the question a little more in detail. Why is it that the will to work does not seem to be as effectively achieved at present as we might hope?

The first reason lies, I think, in the fact that workers in industry have the same innate responses to their environment as other people—including those in management. For instance, monopoly in business is a widespread phenomenon. It results from the fact that people who are in a position to do so find it useful (perhaps because it reduces the wear and tear of competition) to set up a monopoly situation and to control the market in which they operate. When, therefore, we see the leaders of some of our large unions which are strategically placed to develop a monopoly control, is it any wonder that labor leaders follow a pattern which has already been established by those for whom they work? All the motivations stimulating the trend toward monopoly on the industrial side seem to function about the same way on the labor side.

Again, workers have about the same innate responses as other people to the speed of the work to which they are geared. This also seems to be a pretty universal human phenomenon. You see it on a college campus, among both students and faculty, who rate from "A" to "F" on the basis of performance largely because their interests vary, their initiative is different, their desires and goals are not the same. Some people are self-starters; others say "Let George do it." Many people gear their work-speed to their own individual or family needs; when these are satisfied there is no particular reason that they can see for working harder to gain more.

Capacities for Productivity

A second reason why we are not achieving the productivity that we might is that many workers do not have the biological or psychological capacities for high physical or mental productivity.* I do not need to recall the many studies which have been made of the effects of depression on the physical and mental capabilities of workers, to say nothing of the emotional frustration and fears engendered by low-level physical conditions or security. Although the general level of physical well-being has substantially improved during the war period, there is still a heavy deficit to pay for the depression

**The Human Frontier,* Williams (Harcourt Brace, New York) 1946. Especially chs. 1-7, 16.

period both in physical and mental terms, through large segments of our population. Nor do we yet know enough about inheritance to be able to judge as adequately as we might the relationship between biological and psychological efficiency. What evidence we have, however, suggests that there is a very substantial part of the community incapable of continued intensive effort, either physical or mental. What our new knowledge, which is rapidly accumulating, will do to improve inheritance and certainly to enhance the physical well-being of our people, it is too soon to tell. It is already obvious, however, that, unless we do lift the level, we cannot reasonably expect to obtain higher productivity in the long run.

A third reason why we are not getting the kind of productivity we should like is that workers do not, on the whole, have the same social incentives to productivity as do other groups, such as management and professional people. The American tradition, "from log cabin to White House," still dominates our thinking; even the sidewalks of New York are not yet a very easy road to the presidency. But the same idea runs through much of the current eulogies of the free enterprise system. We still tend to make a major justification of free enterprise that it makes the path from the workbench to the front office an open road, even a paved highway. It is true, of course, that many of our ablest management leaders have risen from the ranks. It is that very fact which is probably the most dynamic strength of our free enterprise system.

Statistically, however, this picture is not very persuasive to the average worker. It is probably true that those of the highest superiority of intellectual ability do overcome the still important barriers of birth, education and opportunity which lie across the forward march of the great masses of the people. On the whole, however, it is not likely that the average worker will be able to make up for the deficiencies of his home and educational background in order to achieve the higher levels of management or professional status and prestige. There is a profound statistical fallacy implicit in the individual case which can be pointed to. To refute the mass reaction to the practical openings of opportunity, we must break down artificial barriers to individual initiative.

Outside Activities

In the light of the actual situation confronting most workers, is it any wonder then that they discover their personal release and a sense of participation in activities outside rather than inside the factory or the business house where they work? They establish social contacts and engage in activities which give them a feeling of belonging, of participation in group activity, which is one of the most dynamic elements in individual incentive. This may, in fact, explain why so many workers find greater satisfaction in their union than in an active participation in the job from which they are earning their living. On the whole, therefore, it is not surprising that most workers feel little loyalty to or desire to improve on the job, because the pay-off from their point of view is statistically so small.

A fourth reason for the relatively low level of the will to work relates particularly to the workers' own experience on the job. Most of them have a very immediate and direct experience of the business cycle and its effect on their employment, and thus on their families, and so, on their long-run security. Reduced productivity is, in fact, very often a direct response to what they see as the facts of economic life as they know it, as against the acclaimed virtues of the free enterprise system about which they often hear a good deal but sometimes do not see very much. Here, again, it is unnecessary to do more than recall the many studies of slow-downs and other techniques for reducing productivity in order to prolong jobs. One of the reasons why this response is so frequently and so widely made by workers is, perhaps, because their immediate experience of increased productivity has in the past often proved disastrous to their own jobs. Unemployment, through no fault of his own, naturally induces anyone, including the worker, to take a short-run view of his work situation. He thinks in terms of what is going to happen to him and to his family, and to his fellow workers, in relation to the actual job prospects which he can see. He does not think very often, and why indeed should he, about the long-run effects on our economy of reduced productivity in any of its sectors, especially if it is the one in which he works.

Incentive to Reduce Productivity

This short-run view explains a great deal of the underlying conflict and tension in the plant situation. It is a natural human response to the observed actualities which confront many individual workers. We find the same conflict and outlook, between the short run and the long run, in many areas of life; it often seems particularly acute in labor-management relations. Management, on the one hand, has to take a long-run view of the business or enterprise because it must take into account many factors which are not a matter of direct concern to, and immediate impact on, the rank-and-file worker. Such questions as production costs, sales, ad-

vertising, public relations must all be an integral part of management thinking and planning. It is because these long-run factors affecting productivity as well as production are rarely made explicit to workers as functions of their jobs that they have so little visible influence on their response to their own work situation. For most rank-and-file workers most of the time, there is no particular incentive to increase productivity from the long-run viewpoint, while many immediate reasons for reducing productivity in order to prolong job opportunities emerge in their immediate experience.

A fifth reason for the lack of a will to work lies in the long-range question in which is involved what may be called the "cut of the pie." All our working population in America is today, by and large, the product of at least twelve years of school; that means that most of them can read. Some of what they read makes them feel that our economic system does not result inevitably in a just division of the combined efforts of hand and brain in production. Some pretty basic questions are being asked by a great many people in our society, people of different occupations and different income levels, as to what the basic equities of our economic system really are. As these questions are reviewed in the press and on the radio and in our town hall discussions, they raise still further questions as to the proper objectives — and results — of our free enterprise system. Recent profit statements, for instance, are not necessarily satisfactory stimuli to productivity; the proper relationship between wages, prices and profits is almost bound to be raised as a subject of debate by those concerned with the equity of our economic and social system.

Immediate Plant Situation

A sixth and final reason for the absence of a will to work results from the immediate plant situation. If workers are discontented for any reason with their work conditions, they are unlikely to respond with higher productivity. The origins of discontent are both subtle and varied and often lie a little below the surface of what may, from management's viewpoint, appear to be ideal conditions (or as ideal as they can be made). It is often not a matter of actual defects in working conditions so much as the views taken about these conditions by those subjected to them in the industrial discipline. These views may sometimes be irrational in themselves and very often result from a failure to understand the problems confronted by management in modifying them. They may run all the way from questions affecting health and safety to matters relating to the "atmosphere" of human relations in the division, the plant or the company. Here, size has a good deal to do with how these problems are handled. A single factor in management work and practice will illustrate the point, a factor of a completely abstract character: centralized as against decentralized control of working rules or grievance settlement. Worker responses to the causes of their discontent which are not easily understood or adequately explained to them, whether these causes are physical or psychological, are almost certain to result in lower morale and so in reduced productivity.

We could, of course, go on to explore other reasons why the will to work seems to be so little enlisted in American industry today. It is unnecessary to do so, however, because these six causes suggest sufficient sources of maladjustment to offer us an opportunity for what might be called a technological approach to their correction. They are enough to explain why productivity in terms of people as against machines is not increasing as fast as we might wish. They provide us with a challenge to human as well as technological engineering.

What Can We Do?

We may, therefore, examine the second question, an obvious one: What can we do about creating a greater will to work? What steps, in human terms, can we take toward establishing the incentives for greater productivity? How can we, in short, tap and harness this greatest potential of the resources at our command? We can, perhaps, best answer these questions by going back over the various reasons for our relatively low will to work today to see what management can do to eliminate or minimize them.

The first reason was that workers have about the same innate responses to their environment as other people. Is it not obvious if the general framework of our economic and social thinking is competitive in the Hobbesian sense* that workers' attitudes and practices reflect the dominant sentiment of the great society in which they live? This point has been so often made and is so widely reflected in the way we all respond to our environment that it is necessary only to mention it. As has already been suggested, if monopoly practices exist on the management side, then it is likely they will be adopted on the labor side.

Again, people work at different rates of speed and of enthusiasm because of the goals which they set for themselves. It is not likely that the individual's rate of

*Hobbes' *The Great Leviathan* (London, 1652). Hobbes defined human nature as "nasty, poor, mean, brutish, and short."

work will be changed until his goals are modified by greater personal demand on the one hand or the acceptance of higher standards on the other.

There is relatively little that individual managements can do about this reason for a lack of interest in productivity. When management patterns change, worker habits are likely to also. It is true, however, that the broad re-adjustments made possible by our democratic system can, in the long run, modify attitudes both to eliminate anti-social competitive practices and to establish higher goals of personal achievement. Within the single plant or company, it is also true that their elimination by management will dilute the continued incentive to its workers to use similar practices and substantially increase the chances for raising the sights of individual workers on their jobs.

The second reason for a lack of a will to work was the relatively low biological and psychological capacities found in large segments of our population. In terms of the individual worker's original equipment, there is little that management can do. The people who come to their factory gate or office door for jobs are the raw material of the work force; management must use this raw material to the greatest effectiveness.

Conditions of Work

There is, however, a variety of ways of meeting some of the problems implicit in this practical situation. On the physical side, management can create those conditions of work inside the plant which make for good health and effective physical effort. Some of the problems created by this factor can be met by more effective methods of selection and placement, fitting physical and mental capacities to the jobs to be done. Some of them, again, can be met by creating those environmental conditions from the point of view of safety and of morale which are conducive to efficient production. These conditions run all the way from guards on machines to proper and adequate lighting, heating and color schemes, to say nothing of music programs and other physical stimuli to smooth and effective work. Again, necessary rest periods and a provision of adequate seating facilities or materials for lifting and shifting at the job will often do much to overcome the original physical or mental handicaps of some workers.

There are still further aspects of management's potential activity in meeting the biological and psychological deficit. Within most plants management could organize more effective employment programs which would reduce the fear of unemployment and stabilize the income of people working for them in such a way as to increase their sense of security. Again, some plants have recognized their community responsibility for aiding in developing more adequate housing, welfare, and recreational and educational services. They have assumed their share in lifting the level of community life and thus aided in advancing the long run physical and mental equipment of their work force. What has been done by a few managements in a few communities has demonstrated the value of long-range planning of this type. The pattern of program and activity may vary; the objective need not — an investment in the future of a free economy and a free society.*

The third reason why we do not have as much of a will to work as we might today lies in the fact that workers on the whole do not have the same incentives of productivity as others, such as management and professional groups. Can management do anything about this? As has already been indicated, the incentives of fear or of increased earnings do not seem to be the major driving forces which make people work more efficiently. Many recent studies indicate that workers are much more interested in status than in monetary reward. One recent study, for instance, made in Minneapolis rates the factors which "make a job good or bad" as follows: security; opportunity for promotion; interesting and well liked work; prestige of company; pleasant, agreeable and good working companions; pay; considerate and fair boss; hours; working conditions; vacations, sick pay, insurance, and other benefits.** It is interesting to note that wages come sixth, and sick pay, insurance, and other benefits come tenth. The factors which rate higher have to do rather with the individual's position and his sense of participation in a worthwhile enterprise. Every study seems to follow the same general pattern and indicates clearly that workers are people who, like all of us, want to have their part in the job they are doing recognized as their own contribution.†

It will be easy for any management to develop a long series of suggestions along the line of developing this sense of participation in the job. This is, indeed, the

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*Among the many experiments of this kind one of the most interesting is that of the W. E. Upjohn Institute for Community Relations, Kalamazoo, Michigan. See their recent publication, *Full Employment in Your Community* (Public Administration Service, Chicago, 1947). The Caterpillar Tractor Company, for instance, has as a top-ranking officer, a Director of Training and Community Relations. See also "Survey of Business Practices: Community Relations for 1948," *Conference Board Business Record*, (No. 2, February 1948), p. 65.

**"Selected Factors Which Influence Job Preferences", Jurgensen, v. 31, *Journal of Applied Psychology*, (December, 1947), pp. 553-564.

†See, for instance, *What People Want from Business*, Houser, (McGraw-Hill, New York, 1938); "The Fortune Survey," 35, *Fortune* (No. 5, May 1947), ibid., (No. 6, June, 1947) p. 5; "Summary of Worker Opinion," *Factory Management and Maintenance* (January, 1946) p. 104; "The Way to Industrial Peace," Drucker, *Harper's* Magazine (November, December 1946, January 1947).

core of our problem, the point at which management has both a challenge and an opportunity.

One key to the technique of developing worker morale by recognizing status in the plant lies in the field of communication. On the whole, American industry has failed to communicate effectively with the rank and file. There are brilliant exceptions to the rule but they are infrequent enough still to leave plenty of room for further advances all along the line. It would be simple but not very useful for anyone to outline a generalized communication program for any particular plant or industry. A few general principles have been thrashed out from experience and are available to any managements which are genuinely concerned with improving their own communication systems. Much valuable research is going on in the field both in industry and in universities. Any organization desiring to develop a more effective communication system can obtain substantial help from a wide variety of organizations.*

Several points may, however, be worth noting as to the organization and objectives of communication. First, the most direct face-to-face relationships are the most effective. It is obvious that, in any large plant or in a company with a number of widely separated plants, direct communication from the top to the bottom is impracticable. Written and other methods of communication must be used. The direct "touch" does not, however, need to be lost if the face-to-face relationship is impossible. And that relationship can be organized through adequate training and continuous audit more effectively than it often is.

Tell the Whole Story

Again, it is important to place communication on the basis of complete candor and openness. Telling half the story and hiding the other half (or whatever proportion) will do more harm than good in the long run. Most people appreciate being taken into the confidence of others; it is not less true of workers than of other groups. This applies to the statement of financial accounts as much as to definitions of operating and other management policies. And the channels of open communication must be open both ways — from the bottom up as well as from the top down. Those managements which have capitalized on the untapped resource of worker-response to the opportunity of participating in planning (and in stating grievances) have often profited in tangible no less than in intangible ways.**

Third, it is probable that in organized plants open and direct dealing with the union as well as with individual workers on general questions is the most effective way of effecting useful communication up and down the line. Attempts to by-pass the union will lead only to frictions and tensions which may indeed break out in open conflict. The recognition that a responsible union is an asset to good management has been made by so many companies that it seems hardly worth noting the fact at all. In many cases, however, the development of communication programs by various companies has been designed frankly to by-pass the union by defining areas within which communication with the worker must be direct and may not involve union participation. In the long run this seems to be an ineffective way of achieving the objective of good human relations. Only through demonstrating the desire of management to recognize the individual worker and his representative agency, the union, as sharing in the total job of production will mutual confidence in the integrity of all communications be established in the organized plant.

When it comes to the organization of the communication program, management will almost always do better to utilize its own staff rather than to employ outside public relations "experts." If the objective is to develop team spirit, then the members of the team are likely to create the spirit most effectively. It will not be done by glossy paper or glossy words; workers are fairly suspicious of both. The problem is, of course, complicated by size. In larger companies, organizing an effective communication program is a question on which much experimentation is needed in order to define the proper media as well as the proper temper and spirit.

Immediate Experiences

The fourth reason for a low response to productivity was that workers are faced by immediate experiences which belie the validity of many theories and slogans about company loyalty and the virtues of increased productivity. The question revolved around the short run as against the long run view which workers and management often take to the immediate — and the identical — problems which they face.

Here, also, there is much which can be done by management to improve the sense of relationship of workers

**Management and Men*, Walpole; a study of the theory and practice of joint consultation at all levels. (Jonathan Cape, London, 1944) p. 200; American Management Association, Personnel Series No. 40, *Employee Relations Policies: How to Make Them Specific*, Hattersley (New York, 1940), p. 22; *Sharing Information With Employees*, Heron, (Stanford University Press, 1942), p. 204.

**See, for instance, *The Social Problems of an Industrial Civilization* and *The Human Problems of an Industrial Civilization*, Mayo (Harvard Graduate School of Business Administration, 1945, 1946); *Industry and Society*, Whyte (McGraw-Hill, 1946); *Human Relations in Industry*, Gardner (Irwin, Chicago, 1945); *Management and Morale*; Roethlisberger, (Harvard, 1941).

to their jobs. It has already been suggested that more attention should be paid to stabilizing employment and wage payments in a way to eliminate the fear of the business cycle which is a problem immediate in the minds of most workers. It would be of little use to try to portray in detail what should be done by any individual plant or company. Not all industries are, for instance, able to establish guaranteed work or annual-wage plans. Most are probably in a position to develop their own insurances, in addition to governmental insurances, which would go a long way toward easing the difficulties of individual workers resulting from reversals (sudden or long-term) in employment trends.

Another approach to this problem lies in creating greater participation in planning the job on the part of workers engaged in the jobs themselves. Here is a substantial untapped resource (in many companies) on the purely technological side of the system. Although suggestion plans have many merits along this line, it is not too soon perhaps to think of a longer-range program of worker participation in the actual operations on which they are employed. Experience with labor-management committees during the war bore out this possibility in a number of conspicuous cases. A number of these committees were given trifling jobs to do and the results in terms of morale were equally trifling. A few were, however, given a substantial share in organizing the analysis of production methods from the point of view of improving them. A few, at least, achieved significant results in gaining an active interest, a sense of participation, on the part of workers in the job of increasing productivity. The organization of a plant of this kind is certainly a challenge, but it is no less an opportunity for management to display its managerial skill, and to tap a reservoir of cooperation from workers in their industry.*

"Cut of the Pie"

The fifth reason for the low level of the will to work at the present time lay in the general theories which are now being raised by many workers as to the "cut of the pie." Here, management can probably do little except portray the facts of financial and production records accurately and without accounting legerdemain. Many surveys of general opinion indicate that most Americans think that industry is justified in making a profit, a much higher profit, in fact, than much of industry does today.

Take, however, the question of whether or not profits should be measured in terms of sales or investment. This question is now being met — in the face of very high profit levels during the past few years — by equating profits with sales. This way of measuring profits reflects a very significant though subtle change in the traditional method of stating profit as a return on investment. Without raising the question of the merits or demerits of the two ways of measuring profits as an index of managerial skill, it is fairly obvious that the results in terms of stated profit margins are substantially different. Around questions of this kind, which are essentially ethical questions, a democratic society will certainly have long and often impassioned debates. The final answers will come in terms much more of the ethical judgments reached by the masses of the people than on the basis of any technical superiority of one method of measuring profits as against another. I have a deep faith in the essential honesty and good will of the American people and, in fact, of any democratically organized society. Although we cannot see the answers today to questions of this kind, I have little doubt that the answers when they are given will not affect the essential "prerogatives of management" — which are implicitly those of making the enterprise run with the highest efficiency in human as well as technological terms.

The final reason for thinking that productivity is not as high as it might be today was the direct in-plant situations which many workers face. In many cases, workers "take out" their grievances on management in what seem to be trivial or irrelevant demands. In collective bargaining, for instance, it is sometimes the case that wage demands are made in order to "get at" other and more basic questions affecting the recognition of the desired status of the workers by management. Again, it is not uncommon to find that grievances are carried further and are increased in number in order to demonstrate to management that workers feel management's lack of respect for their true status in the plant community.**

I know of one industry, for instance, in which two companies are in a joint bargaining relationship with each other. In one, eighty percent of the grievances are taken to the fourth step of arbitration while, in the other, practically no grievances have reached the fourth stage. It is obvious that in the first company the relationships between workers and management are on a much lower level of cooperativeness than in the second.

Here, management has practically the entire responsi-

*_Labor-Management Cooperation_, Lever and Goodell (Harper, 1948).

**The whole question of the effect of recognizing the innate desire of workers for an accepted place in the plant "community" is well and persuasively presented in _Men at Work_, Brodman (Cloud, Chicago, 1947). See also _The Union Challenge to Management Control_, Chamberlain (Harper, 1948); _Constructive Collective Bargaining_, Chevfitz (McGraw-Hill, 1947). Several interesting case studies will be found in each.

bility — for such things as health and safety, working relationships on the job between foremen and their immediate subordinates, and effective relations between the front office and the first line of supervision. These and many other elements affect subtly if not overtly the responses of rank-and-file workers to their jobs. Here, management can make a substantial contribution to creating the environment in which the will to work will achieve demonstrable results.*

This brief review does not, of course, attempt to explore all the significant facets of this most important question in our present economic way of life: the will to work. That it is the greatest single potential, the most important resource, available to us to raise our economic, and so, our social levels, of satisfaction and security is evident from the day's headlines.

We have only begun to tap the resource or to realize the potential. But we do know that the explorations already made have expanded the possibilities of increasing productivity in human terms. The results of enlisting the will to work, by giving workers a sense of sharing in the productive process and of being citizens in the plant "community," have demonstrated more than an improved profit margin.

They have demonstrated also that the faith in freedom, freedom of enterprise as well as freedom in society, offers us the best hope for the future of total production as well as for the individual man. That faith underlies the progress of the western world as of our own country over the past two centuries. The very idea of freedom as a principle of organization is today being challenged by forces and institutions alien to democracy, whether in industry or in the community. Is it not worth our while to utilize this great reserve, of the will to work, in order to achieve higher productivity and a more stable society?

*The significance of personnel and industrial relations in the organizational structure of management is increasingly recognized. See, for instance, Chamberlain, *op. cit.*; *The Dynamics of Industrial Democracy*, Golden and Ruttenberg (Harper, 1942); *Business Leadership in the Large Corporation*, Gordon (Brookings, Washington, 1945); *The Philosophy of Management*, Sheldon (Pitman, London, 1923).

A Philosophy of Profit-Sharing

By JOHN D. GORDON
Vice President of the Progressive Welder Company, Detroit*

MY philosophy of profit-sharing is the recognition of three simple fundamental truths, which I do not think can be argued. The first one is that there must be a definite, sincere desire to *recognize the dignity of man.* Without that we can make no progress whatsoever. Secondly, I believe that *every man is entitled to a part of what he produces,* and this results in the third principle, which is a recognition of the fact that *the consumer is the person to be served in this whole picture.*

Profits and wages will be increased and selling prices will be lowered under a successful system of profit-sharing, but the system will not work unless we keep constantly in mind the individual employee's desire for recognition, his right to a part of what he produces, and the importance of serving the consumer.

We must, therefore, produce a better product at a lower price. If you can analyze these three principles carefully, you are ready to start talking about profit-sharing. If these principles are not firmly believed by the top executive officer of any organization which proposes to use profit-sharing, the system will not work.

Sixty percent of all the plans relating to profit-sharing have failed, and they have failed for a very simple reason. Profit-sharing is not a solution to your problems. Profit-sharing is a device by which you are led to believe that people are people, that they are entitled to certain rights and that you have a final boss to consider — your consumer. Since all people are peculiar, if you don't have a generous supply of psychological understanding of people, you are not going to get anywhere practicing the principles which I have outlined.

What is the problem with which we are confronted? We must maintain a high level of purchasing power in order to maintain a high level of production to provide the income to support this very expensive government we have and still have something on which to live. If the purchasing power diminishes, the production, of course, is not necessary and we then reach the point which is said to have existed in France prior to the French Revolution.

Having established what the job is which we are trying to do and having established some principles on which we may proceed to accomplish it, we get down to the actual job of proposing profit-sharing to a group of people to bring about this result. *If we dwell on the fact that there is a compensation in the form of money to be had in return for what we are asking, profit-sharing will fail.* Money, by itself, will not produce the answer.

If, on the other hand, we recognize that these people are individuals who are all different, we will find that they have buried in them a certain degree of ego which is always seeking *recognition.* Just to prove that it makes no difference how big or how small a position one occupies, I had a case in point recently. I was invited to spend the day in Toledo with the Willys-Overland Company. A little more than two years ago, Mr. James Mooney took over as President of this company. He took over a group of people who undoubtedly were the poorest prospects to be changed in their mental attitude. By introducing a policy which is fundamentally based on a recognition of these principles which I have mentioned, he has, in a short space of two years, definitely put the company back into the automobile business where it will remain and continue to grow.

I spend a good deal of my time visiting plants, particularly the automobile industry, and it is my opinion that there is no company in the industry today whose men are giving the amount of effort to their job that the people in the Willys-Overland plant are giving. To my knowledge, they have no profit-sharing plan. Undoubtedly, it will come later. The purpose of this company today is to get good public relations established and I think Mr. Mooney has taken the best possible way to do it.

Willys-Overland invited the heads of all the companies that supply them with parts, components and sub-assemblies; they invited the heads of educational institutions; they invited representatives of the banks who have gone along with them (he was able to point

*Adapted from an extemporaneous talk delivered at the Council of Profit Sharing Industries Constituent Meeting in Cleveland, October 17, 1947.

out that the banks are not worried any more). Gathering this group of people together, Willys-Overland showed us a beautifully organized program. From the time one steps in there in the morning until he leaves at night everything clicks, which is only an indication of good organization put to work. A desire on the part of each one of those people to do an outstanding job for the company he represents was obvious. He was conscious of the fact that he was part of the deal and he took pride in it. As a result, he gave to his job something that can't be bought.

After we had gone through the plant and had lunch, we were taken into Mr. Mooney's office, where he shook hands with each person. When our particular group of about fourteen people was leaving his office, Mr. Mooney motioned to me and, as I shook hands with him, I said, "Mr. Mooney, you have a great deal to show for your two years' effort." He said, "Mr. Gordon, you are the only person who has come into this office today who has indicated that I have made some headway."

Human Energy

Money no longer concerns this man. He is independently wealthy; he is well known; he is well recognized, but the ego is still seeking its level. I don't care who the man is or how high he rises, he is always seeking an outlet for his ego. This human energy is the greatest untapped wealth that we or any other group of people have. We know precisely what every single thing we use will do. We know how to put up buildings. We know how much load the floors will stand. We know what the machines will do. We know exactly how much work they will turn out. We know exactly what our chemistry will do. We have expended untold sums of money to develop every inanimate thing in the world, but what have we done to tap this great reservoir of wealth — the capacity of the individual human being, his ingenuity and initiative?

There is nothing complicated or peculiar about this wealth at our command — the greatest force in the world. All we have to do is to tap it. If you decide that you understand all these things and you want to tap this reservoir, you have to be a man of fairly substantial breadth of vision and thought, and you have to be considerably more meek than we are led to believe most people in high places are.

You can't appeal to the people in your organization to take an interest in making it a better organization, recognize its responsibility to its consumer, and produce a better product at the lower cost to create an ever-expanding market for a higher standard of living, and then step back and decide that you are not going to listen to the recommendations, good or bad, which are made by any of these people.

You must be prepared to surrender the prerogative that management has so long enjoyed. You have to lead: when the floor-sweeper stops the president of the company and suggests what might be done better, if you want this thing to work, you are going to have to be prepared to stop and *listen*. If you don't agree with the suggestion, you are going to have to do a pretty good selling job to convince him that your mind is still open. You have to be smart enough to point out what has been overlooked in the thinking of this individual — the difference between the result that he anticipated and the result that would come about through his suggestion, if the suggestion is not sound. You can't brush these people aside. Once you inspire them, you have to go with them. If you can't do that, there is no answer in profit-sharing.

Sincerity of Management

If you have reached the point where you have these people started up the grade — and there is no limit to where they can go — and in your actions you indicate that you are not recognizing them as the partners that you told them they were when you proposed this method of distributing their legitimate part of the profit, then profit-sharing will not succeed. It can only work through sincerity of management in word and action.

When I say profit, I mean something that is earned as a result of effort expended. If you have indicated that you are willing to recognize the employees' right to part of it, then you must be able to maintain, in your daily contact with these people, that you recognize the dignity of each one of them, and that you recognize it fully. I don't mean that you should organize a mutual admiration society. That is the most destructive thing that could happen. Once you have entered into this thing, you must recognize it in a manner that indicates it is part of your thinking. If it isn't part of your thinking, they will find it out a lot quicker than you can imagine. If you get a few of those people in your organization, they will do the same thing that three bad apples will do in a barrel; it is just a matter of time. They will destroy your effort so completely that there is no hope of restoring it without a tremendously greater effort than was originally required to establish it.

I don't see anything complicated about this. I think it is a matter of recognizing some straightforward fun-

damental things with which we deal every day. We want a certain result and it is much easier to get it this way than any other way I can think of. The result will be a higher income to your people, lower selling price to your consumer, and then the judicial decision on the part of invested capital of what represents a fair return on their investment. Obviously, unless a portion of this increased profit is funneled back to the consumer, we again will fail in our purpose some years hence.

Maximum Unit

I have practiced profit-sharing in companies with anywhere from two hundred to five thousand people. I think five thousand people represents about the maximum unit size in which this plan can be made to work successfully. When you get into larger groups, some one person is going to have to carry down to each group of five thousand the thinking of the head of the concern; he must be their contact and their inspiration. I don't think it is possible for one man to do this job with groups larger than five thousand people. I know we strayed considerably many times with the group of five thousand, while in smaller groups it was quite simple. I don't think that size in itself places a limiting factor on getting this result but profit-sharing is obviously much easier in smaller organizations. It is also much easier where you don't have a long list of absent stockholders or outside stockholders. In companies where the stock is closely held, it is much easier to approach the subject, get the idea across, obtain the stockholders' approval and proceed from there.

The labor union in itself is no obstacle to introducing profit-sharing. The president of our union ran for governor in the State of Michigan on the Communist ticket in 1932. He was a first-class Communist but has since risen in the world and acquired a leaning in the other direction. His success as a labor leader is attributed to one thing — he is openly fighting for higher wages, better working conditions and greater security for the people he represents. On the other hand, he absolutely refuses to protect any man who will not do his part of the job. If you think that as a manager you have been tough at various times, you are an amateur alongside this fellow when he starts to lay down the law to this highly organized and highly paid union.

We have one of the highest paid unions in the United States because the union represents one hundred and fifty-five tool and die shops and they, of course, have the highest skilled labor at the highest skilled rate. Our average rate is two dollars and fifteen cents an hour. When you are paying two dollars and fifteen cents an hour, you had better be getting something for it, particularly now. These differentials in rates do not necessarily mean that you can't compete if your approach is proper and you recognize the necessity of approaching it from the psychological standpoint, the way the football coach approaches the football team. You get what you can't buy. Do you suppose for a minute that you could hire these people on this platform today to come up here? You can get them to do it for nothing, but you can't hire them.

Feeling of Belonging

It makes no difference who people are, what their color or creed is, or their station in life. If you approach them from the standpoint of recognizing the great fundamental thing in every individual that must be satisfied — the feeling that he *belongs* — and if you can create in the minds of your people the idea that they belong, that they are an important part of this activity, then ninety-five percent of your trouble is gone. The five percent which is left is like the problem of trying to get the profit up from five to ten. That is the tough part of the job.

I don't think that you or anyone can deny that *it is the approach to profit-sharing that produces the result.* We have able attorneys and statisticians who know how to approach an intelligent distribution of these funds to protect all of the interests in the picture. We have plenty of people who understand the legal aspects and the tax situation, which I hope eventually may become a little more favorable than it is at the present time. That is not the side of profit-sharing that you have to worry about. You can hire people to interpret all those aspects; what you can't hire is this fundamental belief, this *philosophy.* You have to sell that to yourself and if you can sell it to yourself, I can guarantee that there is only one answer that you can come out with: *your profits will be greater than any under any other possible method of operating your business. The incomes paid to your people will be of a higher order than you ever thought possible, and the price of your product to your consumer will seek a lower level* than it has today, or at the time that you institute this program.

I believe this so sincerely that I take every opportunity I can possibly get to talk to groups of executives. It is no longer necessary to talk to the people down the line. The job has to be done by profit-sharing, and, in my opinion, what this organization can do is to get the executive group to understand that we must tap this tremendous reservoir of human energy, on which, so far, we have done a very poor job.

How Collective Genius Contributes to Industrial Progress

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The mechanism of collective effort as exemplified in the development of electrical equipment; an enumeration of the faculties which different people can bring to the conception and execution of a new invention; the individual's value to the group and the basic factors in individual and collective productivity.

A BRIDGE, a machine, an enterprise, a book, or even a mathematical formula is the material embodiment of three elements of human nature: ideas, emotions, and actions.

The quality of material accomplishments and the resulting industrial progress, therefore, depend on success in correlating and organizing these elements.

The form and rate of progress are profoundly influenced by the fact that progress requires changes in every one of the three elements.

An effort is made in this article to analyze some pertinent relations between the human faculties involved and the process of technological progress.

These analyses may also help to explain how it came about that 3.5 percent of the world's population living in our fourteen industrial states manage to produce in peacetime thirty-five percent of the world's industrial products, and the seven percent of the world's population living in our forty-eight states produce fifty percent.

Before describing the principles that promote industrial progress, attention will be directed to several assumptions.

Let us first analyze the faculties required of a person, or of the personnel of any group, responsible not only for the conception of a new and useful invention or solution but also for its successful reduction to practice.

The dissection of human psychology that follows is done with the realization that various apparently distinct faculties are not like strings on a musical instrument but rather like the sounds produced by them — not only is their absence or presence important but also their interrelations.

There appear to be at least fifteen of these faculties, listed as follows with comments:

1. *Constructive discontent.* To do original work requires not only ability to see the shortcomings of the present but also the urge to better it — that is, "internal electromotive force" or "voltage." No voltage — no progress.

2. *Originality or vision.* That the urge, or voltage, resulting from constructive discontent may be of use, it must have not only the proper magnitude but also the proper direction. Originality — the ability to free the creative imagination from the confines of mental habit, of advice, and even of instruction, so that new possibilities can be visioned — is therefore necessary.

3. *Courage.* To think, free from one's own mental habits — that is, free from previously conceived conclusions — requires mental courage. To express and pursue new views requires moral courage or courage of conviction. The more radical the advance, the more courage is needed to stick out one's neck.

4. *Specific knowledge.* The first, and most difficult step in the process of invention is to *find a problem.* It is common to hear, particularly from younger men, that they would rather work in a new field like television or aviation, because in such a field there are more opportunities for inventions, than work in an established field like transformers, for these have been manufactured for a matter of sixty years. With respect to one established field, the facts are these: There are over 2,000 pages of detailed instructions on how to design, build, test and ship transformers. Are these pages hindrances or opportunities to inventors? The answer is *in the man* and not in the pages; because in the course of a year some 300 pages are revised, introducing new and better ways of designing, building, testing and shipping transformers. Evidently some individuals find in these pages a challenge and an opportunity. The same is true of all other apparatus, devices, methods etc.

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To find a problem is a problem in itself, and one of the important factors that helps its solution is the thorough knowledge of the *specific* field in which one is working.

5. *General knowledge.* One of the most prolific mental processes resulting in invention is the recognizing of similarity or contrast between the answer to a problem on hand and a phenomenon that is known. The Diesel engine, telephone, phonograph and microscope are examples of inventions that were conceived in this manner.

It is for this reason and not "lady luck" that minds which can find and cherish problems make "fortunate" discoveries, by browsing through their store of diversified knowledge and experimenting with a wide range of phenomena. General diversified knowledge therefore is essential.

6. *Analytical ability.* With the five foregoing faculties in force, the ability to resolve a problem into pertinent components and appraise their significance is naturally required.

7. *Ability to synthesize.* It is a fact that many minds of extraordinary analytical ability lack the faculty of putting together things or ideas to get new and useful results. Yet this function is one of the most important in the entire act of invention. Synthesis must be considered, therefore, as a separate and distinct faculty.

8. *Common sense.* Without common sense, as a guide, one is likely to spend effort, time, and money entirely out of proportion to the ultimate benefit that can be reasonably expected. Out of proportion in either direction — too much or too little.

Without common sense one may find a problem insurmountable by paying, from the beginning, too much attention to too many details, thereby making an equation or conception of a structure too complex to deal with or to comprehend.

However, many good ideas and apparatus have come to grief because, in the proper stage of development, not enough care, knowledge, and ingenuity were displayed in solving some of the details.

We sometimes say with a subconscious sense of superiority that we "asked Mr. So-and-So to attend to the details." The fact of the matter may be that we ourselves are actually incapable of solving them, even if a perfect opportunity were given.

Therefore, it is a serious case of injustice to details and to those who solve them that the general interpretation of the word "details" belittles and hides their importance.

Since large apparatus commonly contains several thousands of originally separate pieces, details are to a designing engineer what fleas are to a dog — each requires individual, undivided attention; if neglected, they make life a misery. Fortunately, one need not pay attention to the fleas of the fleas, provided someone else has paid his undivided attention to them.

It should be noted that outside of "constructive discontent," all other faculties mentioned can be classified as mental.

Experience shows that there are some seven more temperamental faculties that are equally indispensable.

9. *Enthusiasm.* In many cases, obtaining a new result requires personal risk, hard work, long hours, sleepless nights, exposure to criticism and sometimes ridicule. The flame of enthusiasm created by the goal and fed by undying considered optimism therefore is indispensable. The basis for such optimism rests on the common experience of resourceful minds that when one is in difficulty he is about to invent or discover a way out. Generally, the way out becomes the better way of doing it anyhow.

10. *Persuasiveness.* Failure to achieve new results seldom can be due to the lack of authority, because a right idea, properly presented, carries with it the necessary authority. Persuasivenesss or salesmanship—the ability to obtain cooperation—is therefore necessary. However, a man who fails to sell a really good idea is at fault no more than a man who fails to buy it.

11. *Perseverance, or determination to overcome obstacles.* From the time a new way of doing something is conceived to the time of its final materialization is almost always surprisingly long. For example, statistics of important inventions made by individuals without the backing of large industrial organizations show that it takes thirty years, on the average. Even within the leading industrial organizations, it often takes several years of continuous effort. Therefore, where perseverance is lacking, excellent ideas generally die at their conception.

12. *Energy.* The general experience shows that the road of technological progress can not be traveled in an armchair, even if on casters. Much walking, talking, traveling, and physical efforts of many kinds are required in the process of invention and reduction to practice. Physical energy and mobility therefore are necessary.

13. *Initiative.* With all the twelve preceding faculties present, an invention may still get no farther than an idea or a sketch unless initiative also is present. Somebody must start the ball rolling.

14. *Sense of humor.* In research and developmental work one must be prepared for many disap-

pointments, misunderstandings, frustrations of hopes, reverses, even "unhappy endings." Therefore, an inner sense of humor—or sense of relative values—based on tolerance, sympathy, and life philosophy, is highly desirable.

15. *Cooperativeness.* As no accomplishments of much importance are achieved single-handed, the cooperation of all co-workers is essential. It is generally obtained through the fundamentals of discipline. However, the natural tendency to cooperate is so highly desirable that men less able in other respects often attain greater personal success because of their outstanding talent for cooperation.

Second Assumption

The faculties that have been outlined are assumed to be quite independent of each other; that is, the possession of one does not insure possession of any of the others. For example, we all meet individuals who have extraordinary power of analysis, yet have no ability to invent or to synthesize.

Third Assumption

It has been reported by psychologists that human faculties (psychological and many physiological) which are independent of each other are distributed among us at random.

With industry performing technological miracles practically daily, it is rather obvious that the men responsible must possess the fifteen mentioned faculties to an outstanding degree. Let us find a man who is outstanding in all fifteen faculties.

"Outstanding" needs numerical evaluation. Suppose we express this degree of excellency as the best of a certain number of individuals, using the symbol N with a subscript corresponding to the faculty's number in the foregoing list. If, for example, a man is the best of 100 in originality (faculty No. 2) then N_2 is 100.

If the second and third assumptions are correct, then the law of probability demands that the most probable minimum number of individuals among whom there shall be *one* "complete" or "total" genius $N_c = N_1 \times N_2 \times N_3 \ldots N_{15}$ or $N_c = N^{15}$, if the same degree of excellency is required for each of the fifteen faculties. A partial list of mathematical data relating to the number of individuals possessing different degrees of genius is given in the table. These numbers can be materially increased through education and environment.

Fourth Assumption

Just how outstanding this "complete genius" must be in each of the fifteen faculties is not definitely known at the present writing.

Perhaps it can be agreed that in some faculties, like originality, he probably should be, say, one out of 100; that is, $N_2 = 100$, while in other more prevalent faculties, like energy, one out of 5; that is, $N_{12} = 5$.

If we should assume that the lowest degree of excellency to be accepted for any faculty is the best out of three, then we get the minimum value for $N_c = 3^{15}$, or approximately fourteen millions or about four individuals among the 54,000,000 employable people in the United States.

The task becomes more and more hopeless when the number from which the choice can be made is reduced by additional limiting requirements like sex, age, race, creed, and formal education.

To some degree, we may be wrong in any or all of

Assumed Degree of Excellence in Each of the Faculties Possessed	Number of Independent Faculties Assumed to Be Possessed by an Individual						
	1	2	3	4	6	8	10
	The most probable number of individuals, out of 50,000,000 who possess the indicated number of independent faculties to the indicated degree of excellence.						
Best out of every 2 men	25,000,000	12,500,000	6,250,000	3,125,000	782,000	195,000	48,700
Best out of every 3 men	16,667,000	5,555,000	1,850,000	617,000	68,700	7,580	840
Best out of every 4 men	12,500,000	3,125,000	781,250	195,310	12,200	760	48
Best out of every 5 men	10,000,000	2,000,000	400,000	80,000	3,300	130	5
Best out of every 6 men	8,333,000	1,390,000	232,000	38,600	1,070	30	0.8
Best out of every 7 men	7,142,000	1,030,000	145,800	20,800	425	9	0.2
Best out of every 8 men	6,250,000	781,000	97,500	12,200	190	3	0.05
Best out of every 9 men	5,555,000	617,000	68,600	7,620	94	1	0.01
Best out of every 10 men	5,000,000	500,000	50,000	5,000	50	0.5	0.005

the four assumptions. For example, it may be argued that not all fifteen faculties but only ten are indispensable or necessary for an efficiently operating developmental group. Furthermore, that only say seven out of ten faculties are found to be truly independent of each other.

On the other hand, in the fourth assumption we obviously erred on the optimistic side; that is, $N=3$ is obviously very low for such faculties as originality, synthesis, perseverance, natural cooperativeness, and specific knowledge if referred to the entire population. They ought to range between at least one hundred and five. In such a case, minimum N_c for only seven faculties would range between $5^7 \times 77{,}725$ (in which each $N=5$), and 100×5^6—1,552,500 (in which one $N=100$; others $=5$).

It must be recognized that on account of lack of experimental numerical data, all of these figures are a matter of opinion and educated guesswork.

However, one significance that can be ascribed to them is that they all give a very large value for the number N_c (the minimum number of people required for a complete genius to be found among them).

Another possible significance of this quantitative approach may be that a man's total rating or evaluation is not so much an arithmetical average of his degrees of excellence in individual faculties, but rather the product of those faculties, because from the point of view of supply and demand it is this product that measures his availability on the human market.

Influence of Environment and Education

It may be noticed that some other important faculties and characteristics like imagination, loyalty, curiosity etc. were not mentioned. The reason lies in the opinion that each of the fifteen that were considered is a composite of several more elementary and definite attributes, characteristics, or faculties as the case may be. For example, originality or vision is believed to be a result of an individual's possessing creative imagination, good memory, curiosity, self-confidence, mental courage, and the habit or strong tendency to generalize observed phenomena.

It appears that there are some thirty-six such elements in the total of fifteen faculties. The resolution into these elements helps to answer two questions:

1. Are the fifteen the results of environment and education, or of heredity?
2. Are our schools doing enough to develop those which are not inheritable?

We shall limit ourselves here to the diagram in figure 1, which indicates that only two out of the thirty-six elements are primarily the results of heredity, also that a large number of those which are results of environment and education are completely neglected in our high schools and colleges. Therefore, the availability of many of the fifteen faculties in individuals can be radically increased through proper environment and school reforms.

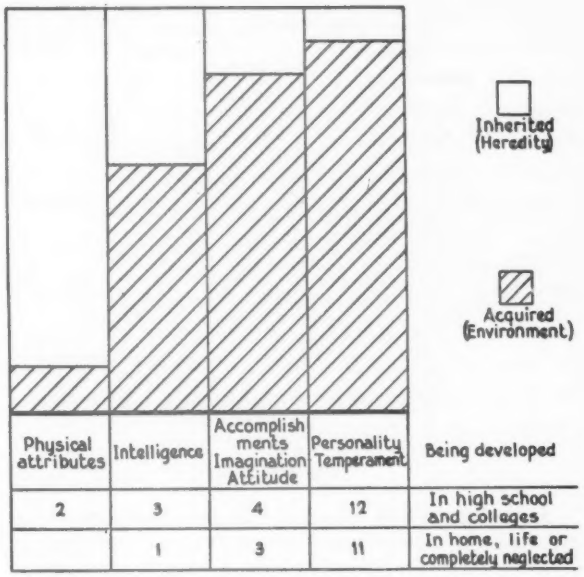

Figure 1. Relative influence of heredity and environment on various components of "human nature." No quantitative accuracy is intended. The figures indicate the number of elements constituting corresponding components that are being developed and neglected in high schools and colleges.

Schools and courses conducted by industrial organizations, being nearer to the firing line, are in a particularly advantageous position to help develop the desired faculties. It is believed that many of us improve in many of the faculties in the course of our lives. This is an evidence that such faculties can be developed through training.

Deductions

1. Since national technological progress is accomplished through the simultaneous conduct of thousands of developments and research projects, it follows from the foregoing numerical relationships that only very few of the advances are made single-handed by individuals who are complete genii.
2. The remainder of the advances are made by the

Figure 2. Help received by a designing engineer from his co-workers and customers, in developing a new type of power transformer. Each line represents one contributor. The branching portion at the upper right suggests further help received by the co-workers.

collective genii of properly selected and organized groups of individuals who are partial genii, each possessing to a sufficiently outstanding degree some of the fifteen necessary faculties.

3. Therefore, the organization and perfection of collective genius has been one of the most important factors, if not the most important, in technological progress.

4. Perhaps one of the reasons that technological progress for centuries was very sporadic and slow was because collective genius had not then been discovered. Therefore, great accomplishments were the results of single-handed effort by nearly complete genii. As our calculations show, such genii are exceedingly rare, perhaps a few in a century.

5. Since it is thus impossible to obtain enough individuals who are complete genii, industrial management and all co-workers must be content with the fact that they themselves as well as their colleagues fall short of perfection to a considerable degree. We differ in the degree and the kind of imperfection but each most likely lacks, or is just average, in several of the fifteen faculties.

6. The collective-genius system of organization has radically improved the status of individual members of society. As each one lacks some of the necessary faculties, or at least does not excel in them, he by himself could not therefore obtain the income and other benefits that he does in partnership with other partial genii of the organization. Thus we may or may not be our brothers' keepers but we certainly are each other's crutch and lean rather heavily.

7. In a collective-genius organization, the members may or may not be physically immediate neighbors. In large organizations, they definitely are not. Some individuals are in executive positions, others in engineering, laboratory, factory, administration etc. Often they are located in different buildings and even in different plants of a given company.

8. The desirable composition of personnel for a group depends on the type of project being promoted. For this reason, many individuals are involved in several groups at once. These interconnections form an extraordinarily complex, constantly changing network of human relations throughout the entire strata of the organization.

9. Therefore, the success of the entire system depends on the maintenance of *esprit de corps* and individual morale and good will. As no significant improvement is accomplished single-handed, the constructive attitude of everyone must be maintained; without it any of the fifteen faculties are of little use.

Examples of the Operation of Collective Genius

To illustrate the principles described, several examples will be cited from recent significant electrical engineering developments. One example in particular was selected and is presented in some detail because it is the latest of those developmental projects of which the author has kept a record of the operation of collective genius during the last fifteen years—in the design of power transformers.

A review of the trend of progress in modern power transformers shows that up to 1927 it was directed toward improvement of reliability. During the following ten years, out of more than 2,000 carloads of shielded concentric-winding transformers shipped, representing a total of over 11,000,000 kva, only two such windings failed and those were due to misapplication in service.

It was decided therefore to expand developmental work toward greater operating economy through reduction in size and weight. One of the results of this project was a power transformer of novel design. This transformer is hermetically sealed, has no gaskets; all joints are either welded or brazed. It is cooled by forcing the insulating liquid and the air more effectively than was done before. With this type of cooling, power for the fans and the pumps is supplied either from the transformer or an outside source. Means are provided for giving remote indication of the functioning of various accessories. It can be used either with Pyranol or

mineral oil. Its weight is fifty-two percent, floor space forty-seven per cent, and over-all volume thirty-four percent of that of a standard transformer of the same electrical characteristics. This reduction of size and weight was accomplished without using new materials but through more effective utilization of those we normally use. Still further reductions in size and weight can be made by using the high-permeability cold-rolled silicon steel that is being used regularly in Spirakore distribution transformers.

Power transformers of this type (up to 50,000 kva) can be shipped completely assembled with all bushing and the cooling equipment in place ready for operation.

Because of the diversification of the problem (forty-two separate developments), the record showed that ninety individuals constituted the collective genius of this project.

These persons were either profitably consulted or were engaged in the development of various items. They were located, chiefly in the various works of the General Electric Company, as follows: Pittsfield, 70; Schenectady, 8; Fort Wayne, 2; Lynn, 1; Bloomfield, 4; Outside G. E. Co., 5.

Their grouping by occupations is shown in figure 2 where each line corresponds to an individual contributor. To show that this diagram is not complete, a further expansion of collective effort is suggested at the upper right where one of the contributors is shown to receive help from still other co-workers.

These ninety individuals do not form any one organization unit of the company, but are dispersed throughout many entirely independent departments. The time devoted by each man varied from a few minutes—just enough to suggest a key idea of a solution—to many months of steady effort.

Their contributions to the project were made either at the invitation of the designing engineer in charge of the project or through their own initiative. The contributions were made either by individuals or by small groups, and at different stages of the development.

Depending on the magnitude and the nature of the component problem one or more of the fifteen faculties were contributed by various individuals.

Figure 3, for example, shows an analysis of one group of three men, from two different departments, who solved a particularly tough problem of a manufacturing process.

The outstanding faculties used in this case by each member (*A*, *B* and *C*) are shown by horizontal lines opposite the corresponding faculty.

Their task can be compared with lifting the weight shown in figure 3 by a process in which each man contributes his strongest links that others lacked or were not in a position to supply.

Therefore, each man has a right to feel that were it not for the strength of his links this heavy load would never have been lifted—provided he remembers that there were some other indispensable links that must have been at least strong enough that he has not and quite likely could not have supplied.

Two more examples of the results of collective effort on the part of two other developmental groups are equally pertinent. These accomplishments again could not have been achieved were it not for the ability of the

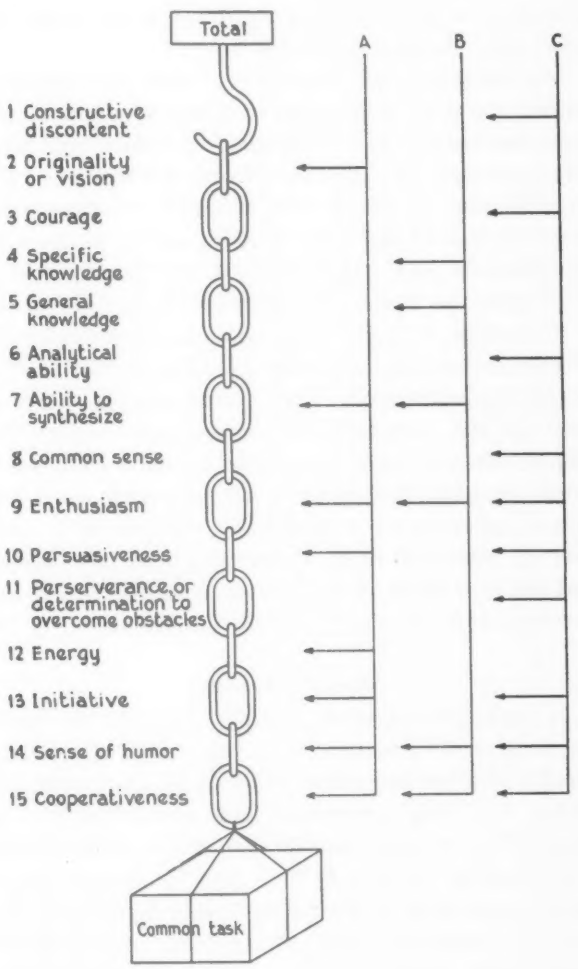

Figure 3. Solution of a particular problem by collective genius of three individuals (A, B and C). The horizontal arrows indicate the faculties which were contributed by each individual.

organization to integrate its diversified faculties for every type of problem that confronts it.

In the development of the Spirakore transformer, the efforts were centered around new core steel and new design; the high-permeability cold-rolled strip steel and the wound-strip type of core. These permitted more economical and effective utilization of materials, and resulted in a new type of transformer construction which required entirely new manufacturing methods and equipment. This new type of transformer made it possible to reduce prices twelve to eighteen percent, and up to date has effected a total saving of approximately ten million dollars to distribution transformer users.

Based on the record of ninety individual contributors, in the design of the power transformer, the number of contributors to the Spirakore development may have easily run into more than 200.

In another example, the Pyranol-filled potential transformer, the development centered around a new type of construction and new insulating materials, and again was the result of collective effort and ingenuity of a large number of people. This resulted in radical reduction in size and weight and in improvement in operating conveniences; also elimination of fire hazard through substitution of Pyranol in place of mineral oil.

The width of range of integration of originality and of constructive discontent of collective genius is illustrated by the statistical data of the suggestion system used by the General Electric Company since 1923. These show that each year, on the average, every second employee makes a suggestion for improving some function or other of our collective effort; and that, on the average, one-third of all suggestions made are accepted and put into effect. These statistics do not include suggestions made by engineers and executives.

Factory System

In the beginning of the factory system hardly any of the basic facts enumerated in this article were recognized, and the organization was built on dictatorial principles: (1) Single source of ideas and authority; (2) Suppression of emotions through rigid subordination; (3) "Cutting" *men to fit their jobs* by disregarding or suppressing some of their outstanding faculties, if they were not required by the job; (4) Disregard of human dignity and social equality; (5) Non-recognition of partnership throughout the entire strata of an organization engaged in a given task; (6) Getting more out of men by "perspiration"; (7) Improving a balance sheet by skimping in manufacturing equipment and working conditions.

The factory system transplanted to the United States originally retained all the above characteristics. Gradually, however, under pressure of the democratic spirit of the country and determination to increase productivity, it has greatly changed.

The new factory system demonstrated the value of *collective genius* without regard for race, creed, nationality, or other unessential discriminations. Since contributions to technological progress is only one of many functions performed by industry, the entire collective genius consists not of the fifteen faculties mentioned, but perhaps a hundred faculties, talents and aptitudes. It was also found that more can be produced through cooperation than through subordination, more through inspiration than through perspiration. It was therefore necessary to recognize the practical value of:

1. Cultivation of individuality.
2. Unlimited possibility for individual growth.
3. Fitting a job to the man.
4. Human dignity.
5. Social equality.
6. Freedom of discussion of technical and other problems.
7. Criticism.
8. Tolerance.
9. Sympathy.
10. Reduction of authority of supervisors and executives by investing it in small executive and semi-executive groups and committees.
11. A foreman as a skilful guide and mediator rather than the hard-boiled, intolerant dictator of a hundred years ago.
12. Good working conditions.
13. Expansion of personnel departments, basing their operation on sympathy and understanding.
14. Fair play.

The economic value of regard for the individuality of men, of course, is well known now, but numerical examples are always interesting. A case is cited by D. A. Laird (on page 30 of his book *How to Use Psychology in Business*) where, in a New England printing plant, the output per worker increased eighty percent when most of them were assigned tasks best suited to individual aptitudes. This fitting a job to a man was accomplished in a few years by the trial and error method.

To the extent an industry succeeds in all fourteen of the considerations listed, it succeeds in giving more men an opportunity for "pursuing happiness," which is be-

lieved to rest principally on satisfaction of the urge:

1. To create and contemplate the results.
2. To exercise one's outstanding faculties.
3. To overcome obstacles.
4. To do things together.
5. To be treated fairly.

It is logical, therefore, that by the foregoing fourteen means, individual and collective output is increased. Are not all these the basis of true industrial democracy?

It is, of course, recognized that these fourteen democratic principles are not as yet universally applied, even in the United States; and to this measure we can look forward to additional increases in productivity of our industry as application of these principles grows.

Since democracy is not so much a written system of a government as it is an attitude—a life philosophy which motivates the population in living and working together—it may be granted that the United States and Sweden represent the highest development of such a philosophy in practice. Perhaps then, it is not mere coincidence that these two, the most democratic countries, had during the last eighty years not only the greatest growth of national and industrial incomes but an *identical* one. From 1860 to 1929 in both countries, the value added by manufacturing doubled every thirteen years and the national income doubled every seventeen years. Since in so many, if not all, other pertinent respects, the two countries are very different, the similarity gains in the probability of its significance.

The fact that industry—an extraordinarily diversified effort of millions of men and women subject to strict accounting—evolved from dictatorship into democracy, not through sentiment or dogmatism but because it proved to be more productive, should be encouraging to all those who are devoted to the principles on sentimental grounds. Moreover, there is encouragement to students and preachers of religion and ethics to see how in the course of human history the basic ethical principles, derived from the nature of man, can never be neglected for long.

That industry and people at large have wakened to the idea that the main social and personal problem is to learn *how to live and work together* is evidenced by the steadily increasing number of books on scientific management, psychology in industry, how to get along with people etc. and the outstanding success of some of these which have become best sellers.

It should be noted that most modern American industrial organizations are so well conducted that any new factor, physical or psychological, that appreciably influences their functioning is detected practically immediately and its effect quantitatively determined. In this they have a substantial advantage over political, economic and social functions of a society where different factors hardly ever can be physically isolated to permit experimental studies of their effects. By necessity it is left to years of social trend to adopt or discard them, during which period they are subjected to qualitative discussion only and are therefore apt to become the unhappy victims of demagogy.

So, while outside of factory gates many debate the relative worth of democracy and dictatorship in political, economic and social fields of application, within these gates millions of Americans daily demonstrate that democratic principles are not out-of-date inventions or impractical idealism, but form the most practical social mechanism that helps people best to work for the common good, by discussing, compromising, deciding, uniting and acting *together*.

Discovering and Developing Leadership Abilities in Management Personnel

By KENNETH H. SHAFFER

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To use human resources more effectively, management must find its future leaders by measuring candidates against the necessary qualifications for leadership, by constantly working to develop those qualifications, and by adequately training the best man available for every position.

MOST companies today are faced with the problem of trying to find an adequate supply of effective leadership. Let us briefly discuss what we mean by leadership abilities in management personnel.

Someone has said, and I believe appropriately, that "management is the art of getting people to wholeheartedly and effectively cooperate in an activity which they feel is desirable." I want to emphasize "which they feel is desirable"—not what you or I feel, but the individuals doing the cooperating. When we discuss any particular phase of dealing with human beings we cannot treat it by itself, because it has a natural relationship with the whole field of personnel work. To the extent that it is possible, however, I propose to limit the discussion to the particular subject as given in the title, realizing that some important phases of related work will, of course, have to be treated very lightly.

Management is a profession, an art if you wish, far more complex today than almost any other profession or activity. When we appreciate the fact that it takes four years of training to make a machinist or carpenter or other craftsman, it seems very obvious it will take a longer period of training for anyone to understand completely the profession of management. Yet in industry today I think it is safe to say we devote less effort to management training than we do to craft training. This is just another way of saying that effective management men are not born, or at least relatively few are. They must be trained, developed and constantly appraised.

Probably the greatest problem in the world today is the inability of peoples to work harmoniously together. It is probably also the number one problem of industry because its solution would greatly increase efficiency and would help to settle the differences which occur between the various groups within a company. When we talk of management leadership we are, of course, talking of far more than the technical knowledge of operations. It includes the discovery, development and effective use of physical *and* human resources. It is more important to us, as well as more difficult, than technical processes. Poor technical processes may result in ten percent less production. Poor leadership in the field of human resources can easily result in twenty percent or greater reductions of production.

By way of illustration, a survey was recently made of factory workers by Stanford University in which they asked the workers, "What is most important about a job?" The factor standing highest on the list according to the factory workers was, "Having an understanding and friendly supervisor." The second most important factor was, "Knowing that I am doing useful work and doing it well." The third factor was job security. Wages came fifth. While other surveys may have indicated some slightly different arrangement of these factors, almost all of them show that the item of wages is well down in the line and it is the other, less tangible, job factors which employees consider the most important. Yet I believe more effort is spent on wage matters than on some of the other factors which I have mentioned. How much could we do in reducing turnover, for example, if we paid more attention to the employee's satisfaction with his job and how much would this decrease costs and increase production? How about raising the figure of eighty-five percent, which management in a nation-wide survey estimated was the productivity of employees compared with the period before the war? Lack of teamwork, poor cooperation and items such as poor planning also cause lowered morale which greatly affects getting out the work. These and a number of other points are all involved in the matter of developing

*This article is adapted from a talk given at the Northern California Management Conference in San Francisco, March 18, 1948.

effective management leadership in our industry today.

Perhaps, therefore, the first thing that all of us should put in our book is this:

> Management, from top to bottom, needs to develop a greater understanding of what management really is, an understanding that it is the direction of people and the securing of whole-hearted cooperation in the enterprise, and that we need more leadership development in solving the problems of using human resources.

Just a few days ago, I was discussing leadership ability with a former Marine who made a remark that bore on this point. He said that when he was in the service they had a commander whom he described as "tough." Yet he said that the men worked hard, feeling that it would not always be as tough, but primarily because they were certain that the commander knew what he was doing; that the assignments were all for their own eventual protection and good. Subsequently, he was under another commander who was "easy" and yet he said none of the men felt good about it. They were afraid that they would not be prepared in case of trouble and they weren't sure the commander would know what to do if they met it. The way he phrased it, "Everybody was grousing and wanted a change." While that commander was there little was accomplished.

Being a good leader doesn't mean being "tough," but it certainly does mean giving the people who are working the understanding that the object toward which they work is desirable and thus securing their wholehearted cooperation.

Management Leadership Qualifications

Before we can discuss the discovery and development of leadership ability, perhaps we should stop to consider what management qualifications are involved. Most of us can make a list of those qualities or characteristics which we feel are necessary for a member of management. I will mention some here which may serve as a basis to guide our thinking, but you may well develop a list that appears more desirable.

1. *Ability to lead.* By this I mean the capacity to develop teamwork, to give fair, considerate treatment to employees as individuals, to use judgment and discretion in applying company policies, to be effective in explaining the company and its policies, besides the other related qualities of a leader such as soundness, stability, interest in his men and their problems, and support of his men's best interests.

2. *Ability to develop his personnel.* This involves the securing of good subordinates, the care and thoroughness used in appraising their ability, the willingness to help train and develop them, and the effectiveness of the training and counsel which is given. Actually this is probably the number one assignment of any member of management. A company is a team and it is important to develop every member of that team so that he can be the most effective in his job. A single star performer is far less valuable than a group of good performers, particularly when it is appreciated that the game goes on and the star performer may leave, with the resultant slump in effectiveness.

3. *Initiative.* Any management member needs to have originality of thinking, vision, the capacity to grow. He should have the recognition of needs and opportunities, be open-minded, and eager to learn; in general, have the spirit of enterprise.

4. *Ability to organize.* As an organizer, management should be able to make logical and well-rounded assignments, establish natural workable relationships, properly delegate the work and make adequate use of the staff.

5. *Ability to plan.* This is the ability to look ahead, size up the needs, crystallize objectives, formulate sound, constructive programs and properly schedule their performance.

6. *Performance.* Any management member should, of course, have performed well in his prior assignments and shown that he has the ability to produce results, achieve objectives and generally qualify for these other characteristics which have been mentioned.

7. *Experience.* This item I place last. In some jobs it may be of considerably more importance. Preferably a manager should have the technical knowledge of the operations which he is going to manage, but frequently I believe it is possible for him to learn this phase of management activity more readily than it is to learn the others. In this connection, I believe we all appreciate that the fellow who knows most about the actual operation frequently is not the best man to manage it because of the lack of the other qualifications which he has.

Discovering Management Leadership Ability

With a list of this general type of management qualifications, how do we go about discovering who has them? The future leaders of industry are working in the companies today. Our problem is to find them. One approach, assuming that management has an appreciation of what management really is, is to have a definite program of appraisal for everyone who might possibly be suitable material. Many companies have rating programs

for looking at the qualifications of the men who are down the line. A similar program, but one based on the qualifications which we want in management and applying to all levels of management, is the first step in discovering the abilities that our people have. Measure your men directly against the qualities you want. The sound, careful judgment, not of one man, but of a group if possible, as to how well each potential management member or present management members meets a list of qualifications such as the one I mentioned, would be the first step toward determining what is available. Such a program needs to be initiated at the highest level of management. It needs a high member of management to act as the spark plug. It needs a common understanding as to what the objectives of the program are and what the standards of measurement are. Perhaps someone not directly connected with the work in any particular department should sit in on such appraisals to act as a counselor or referee. And don't forget that there may be good management material that has been side-tracked and is now in dead-end jobs. Look at the good and the bad to make certain that you are not overlooking the very qualifications that you want.

Developing Management Leadership Abilities

Having appraised the potential or present management members, the next step is to develop them. From the appraisal sheets it will be apparent where the individual needs help and improvement. Supervisory training programs are only a part of the development process. For example, one of the easiest things to improve is the matter of experience. If the individual does not have the kind of experience which he needs it is up to management to place him so that he does. Again, if he is not good at dealing with people, he should be given help in this field. I have been impressed many times in the rush of business life as to how we forget to place ourselves in the other fellow's shoes when we are dealing with him. I am sure all of you know of supervisors who have been well trained otherwise but have missed this particular point. A proper understanding of the fact that we should explain any change which affects our subordinates, that we should praise them when they have praise coming to them, and that we should give them counsel on their weak points is necessary for all management people.

Perhaps some of our management members do not even know what their subordinates expect from a leader. I am sure that many companies today do not tell supervisors that workers expect to be kept busy without being driven, that they expect the supervisor to judge each one honestly and fairly, maintain discipline, supervise safety, be willing to discuss individual grievances fairly, be well liked and respected by the other bosses, and to be cheerful and an inspiration to his men.

Perhaps some management people need further development in their ability to develop their own subordinates. Every management member is developing people all the time — either negatively or positively. It is not something that can be added to the management job; it is already there. The important point is that it should be positive rather than negative. This means that he should understand that he needs to take an active interest in the subordinates, should counsel and help them, and that there is no better way to train than by setting a good example.

I recall some years ago, when I was first sitting in on promotions in our company, that the executive in charge stated that he had no subordinate really qualified to be his assistant. We looked at the four or five most likely candidates to see what the problem was. The first candidate, who otherwise had all the necessary qualifications, was considered unsuitable because he was not sufficiently friendly with his fellow-workers. The second candidate could have held the job except that it was felt he lacked initiative, or as we then phrased it, "aggressiveness." I knew both these men well and had the definite feeling that the first man was adequately friendly outside his job, but had the idea he should be "all business" while at work. The second man had plenty of new ideas and always presented them but he also thought that he should be a good soldier, that if his superior, for example, indicated some resistance to the idea he should cheerfully carry out his assignment without trying to make the proposed change.

Somebody asked the question as to whether anyone had ever talked to these men on these particular points and the answer was no. As a consequence still another man was finally selected, possibly because less was known about him than either of the first two. Subsequently both the first two men were given counsel as to the points on which they needed to improve; since both were eager to do what the company wanted they corrected the so-called weaknesses and have since had promotions beyond the one that was then being considered. It was the lack of counsel and help that caused none of the subordinates to be ready for the job at that time, not the lack of ability in the men. To give this counsel and help it means that appraisals must be constantly made; it is not a one-shot proposition, but a periodic proposition with constant help being given in between. This brings me to the second point which I would like to emphasize:

Management members, from the top to the bottom, should appreciate that it is a basic part of their responsibility to be constantly working on the development of the men under them.

I have reserved for the end a part of this program which might very well be placed first and which I shall call "matching the man with the job." At some stage of the program, management should be critically looking at its management positions to determine which ones need to be filled in the near future. This again I believe is best handled by setting up a program so that throughout the company the vacancies which already exist or which will occur in the future are known. The general qualifications needed for each of these vacancies should also be determined. Then you can take your appraisal sheets, match the qualifications which your men have against those which are needed, and actively start your development program to fill in the holes. I think you will find that the time available for developing your leadership material is all too short. Nevertheless, it will aid in the selection of the best available man for the job. This leads to the third point and the end result of the program:

It is part of management's responsibility to have the best man adequately trained in every available job.

Of course no plan is perfect because we are dealing with people. But a sound plan is a tremendous advantage over none at all, or a hit-or-miss program. It is also a great satisfaction to those who are carrying it out because it fills the spiritual need, which to most people is greater than any financial reward, of a job well done. The appreciation of those you have helped will be more than adequate reward.

The problem today is to bring a fuller appreciation to industrial management that we are faced with the challenge of the need to discover and develop leadership abilities if we want companies that whole-heartedly cooperate from top to bottom and that are effective producers. We need more realization of its importance, more realization that it can be done effectively. It may even have some bearing on the survival of free enterprise. It requires thought, imagination, plenty of work and, on top of everything, complete appreciation and support from the top to the bottom of the management team. If we want to, however, we can do it.

Book Reviews

The Cnallenge of Industrial Relations, by Sumner H. Slichter. Cornell University Press, Ithaca, New York, 1947. 196 pages. $2.50.

PROFESSOR Slichter in recent years has become one of the most prolific and one of the most influential of the academic writers on labor relations; and he has accomplished the unusual performance of retaining the confidence of both employers and employees as well as that of the government. His latest book is a transcript of six lectures delivered at Cornell University in 1946. It exhibits the strength and the weakness of its origin. Each lecture is complete in itself and gives an up-to-the-minute presentation of a particular set of problems. Taken as a whole, however, the book is so selective in its topics that in its short compass it does not contain a full discussion of labor-management. Probably the author covered all the ground he intended to but a reader cannot help wishing that the book might have been expanded so as to cultivate the whole field as thoroughly and as convincingly as those areas selected by Professor Slichter.

The book gets under way by stating, as Slichter repeatedly has done in earlier writings, that unions in the United States are the most powerful economic organizations in the community. This growth of power has created six groups of problems, which the author lists as follows:

1. The effect of unions upon the management of business enterprises.
2. The economic consequences of the wage policies of unions.
3. The effect of unions upon the rights and duties of their members within the union — their opportunity to participate in the making of policy decisions within the union and their rights with respect to the imposition of discipline by the union.
4. The effectiveness of collective bargaining in producing settlements of industrial disputes.
5. The effect of the enormous power of unions upon the interests of the community as a whole.
6. The effect of unions upon the political life of the community.

The first five of the problems are treated in the book.

In his discussion of the effects of collective bargaining upon management, Professor Slichter reaches two conclusions: (1) that in most industries it has produced a better adjustment between the interests of the consumers and the interests of employees, and (2) that it has stimulated better administration of business.

In this section the author also advances the theory that in the collective bargaining process management represents consumers. "Employers in dealing with unions may be regarded as bargaining representatives of consumers; unions bargain for employees, who are producers. . . . In this bargaining, management, of course, represents the interests of consumers. . . . The lower the costs of production the lower competition forces prices or the higher it forces quality."

This theory is ingenious and interesting but it does not explain the entire relationship among the parties in industry — at least not in the opinion of this reviewer who prefers the doctrine that, not only in collective bargaining but in the whole competitive process for the output of industry, management should — and at its best does — stand in the position of a mediator of the interests of the three principal claimants: labor, ownership and consumers.

Some of the closest reasoning in the book is found in the lecture entitled "The Economic Consequences of the Wage Policies of Unions." Professor Slichter has gone further than most other writers in combining the facts of wage setting and collective bargaining with the principles of economics. He points out with extraordinary clarity the effects, for example, of union-forced wage increases upon industry, upon the community, and upon the long-time interests of union members themselves.

When collective bargaining becomes fairly universal, Slichter argues, "the real bargaining will be in the main between unions and unions." He adds:

> Through the media of employers, unions will bargain with one another over the division of the sixty percent and more of the national income which goes to employees. The strong unions will enforce wages and terms of employment which compel the employers to charge relatively high prices, which the members of weak unions and their families must pay.

The effect of wage changes upon unemployment and upon the business cycle, especially if rate increases exceed the gain in man-hour output, is discussed understandingly and authoritatively. This part of the book is particularly well worth reading, especially by the employer or the labor relations manager who believes wage levels are determined by a process that includes table pounding, astrology and non-Euclidian mathematics.

EDWARD S. COWDRICK

Consultant in Industrial Relations
New York, N. Y.

Business Planning and Control, by Floyd H. Rowland. Harper, New York, N. Y., 1947. 337 pages. $4.00.

MR. ROWLAND has set for himself the task of writing a book that will help executives develop and carry out forward-looking plans. This is quite an assignment since it necessarily touches on nearly every aspect of the work of an executive which in turn requires that each subject be treated briefly. On the whole, Mr. Rowland has done a very good job in his selection of material and in confining his discussion to the points of direct interest to executives.

The book is divided into two major parts—"Business Planning" and "Business Control Techniques." The author regards planning and budgeting as essentially one and the same thing (page 1). This view is reflected in much of the book. To this reviewer it seemed more to be an unusual definition of budgeting rather than a new slant on planning. The budgetary viewpoint and approach to control of operations is emphasized in several places in the book.

The first section of the book makes up one-third of the whole and is largely an expansion of the idea that companies should have a "distribution audit." Several chapters are devoted to showing how desirable it is to be fully informed concerning customers' wants, profitability of individual accounts, of particular lines etc. and of the suitability of the existing organization to the needs. Attention is also given to the merits of the methods generally used in market research and to the methods of judging one's own organization.

This material is all presented as if these were desirable things which should be done but which, the author implies, were not being done as a continuous day-to-day matter. The distribution audit, for example, "begins with a statement of the objectives of the company as they have existed, presents the picture of the distribution activities of the company as they have been and are presently conducted, and weighs the adequacy of such a program. From it, recommendations can be developed for the new program" (page 11). It would seem that market research, customer analysis, product analysis and the like should be the subject of constant study rather than subjects for an occasional distribution audit.

The major portion of the book, devoted to business control techniques covers such subjects as budgetary control, personnel policies, job evaluation, wage incentives, profit-sharing and the like.

In the preface the author states that "Top management cannot be expected to master techniques of control, but it must understand them" (page xiii). This book is intended to be a source of quick reference for the executive "in a form concise enough to be read between the time the item appears on the meeting agenda and the date of the meeting" (page xii). The work may fill this need yet the busy executive might well look farther into more complete sources if he proposes to make decisions.

The discussion of the plan of organization leaves much to be desired. The author rejects such semi-standard terminology as exists and introduces his own. What is generally called a line organization he calls a functional organization. He states that the line and staff form is not a distinct type of organization. The discussion on wage incentives is also insufficient. Considerable space is devoted to how to compute earnings under various old wage formulas. The lengthy bibliography at the end of the book appears to be good up through 1940 but it is incomplete since that date.

Business Planning and Control will probably be of most use as a kind of reminder or check list for the executive. Were an executive faced with the need for full information on any of the subjects treated, he would, of course, have to look into the more complete sources in each subject.

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Full Employment in Your Community. A Report of the W. E. Upjohn Institute for Community Research. Public Administration Service, Chicago, 1947. 119 pages. $2.75.

THE twin problems of full and stable employment have mostly been studied from one of two points of view. First, there is the voluminous literature from the point of view of business cycle analysis and, second, a considerable body of material from the point of view of the individual business enterprise. *Full Employment in Your Community* is a contribution from

a third point of view; it is to be hoped that greater attention will be given in the future to the community attack on the problem. The book is essentially a check list of suggestions. Its purpose, in fact, is "to bring together in one place all of the major suggestions that have been made which look toward the achievement and maintenance of full employment in so far as these proposals relate to action which can be taken at the local level."

The book is a small one which does not purport to be a treatise on the economic aspects of the full employment problem but it is, nevertheless, comprehensive in its coverage. It has suggestions to offer in many areas related to the community approach to the full employment problem. There are chapters on local government measures to promote full employment, on expanding and stabilizing industrial employment, on agriculture and the problem of full employment, and on the contributions which labor organizations and the community planning approach may make toward full employment. This report is also a guide book to action. The concluding chapter spells out a procedure for organizing the community to achieve full employment.

Full Employment in Your Community is highly readable thanks to its excellent organization and succinct treatment of topics; it accomplishes its purpose well.

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Applied Job Evaluation, by H. Geddes Stanway. Ronald Press, New York, 1947. 81 pages. $3.50.

IN HIS preface to *Applied Job Evaluation* the author states: "This manual of job evaluation has been developed to meet the specific needs of executives, supervisors and personnel men in setting up job evaluation plans. The author has attempted to provide a program that is both definite and simple for properly analyzing, describing, classifying and rating jobs exactly as done in practice, thus eliminating for the installer of such a plan the many uncertainties and complications which usually arise in the absence of an adequate guide based on practical experience."

These statements and others which follow would lead one to expect that a considerable amount of indoctrinating information as well as technical information is to be found in the manual. The less than seventy-two pages of text material which follow fail in some considerable measure to satisfy any one of the conditions set forth in the above quotation. For one thing, the specific needs of executives, supervisors and personnel men in setting up job evaluation plans are basically different from one another. For another, it is assumed that the particular plan suggested would fit all needs adequately and equally. The words in the quotation, "exactly as done in practice," set the keynote to the whole presentation. The reader gets the impression that he is being initiated into a mysterious and secret rite and that if he were to accept the plan set forth in this book he would be doing things just the way all the "big fellows" are doing them. Actually, big companies as well as small ones find that widely different plans are required to meet their specific conditions.

This reviewer is aware that there are several points of view concerning which plan of job evaluation is "best," and at least one reviewer has elsewhere examined Mr. Stanway's work from the point of view of its technical soundness. This review is purposefully limited to other considerations.

On page 17, under the general heading "Developing the Plan," the author states that a three-step process should be carried to completion before starting to develop a plan of job evaluation. The steps outlined are (1) the scope or coverage of the plan, (2) the type of plan best suited to the conditions and (3) who shall have charge of setting up the plan. After a cursory acknowledgment that different companies and different circumstances might require different treatments, Mr. Stanway informs the reader that the point evaluation system is the best plan to use for the purpose and that the plan should be established under the authority of a trained job evaluation specialist. Such reasoning leads one to wonder why the initial statements of the preface were required at all. It has been the experience of people in this field that the acceptance by management of the need for job and salary programs is basic to the success of such programs. Surely if a book is to be written on the subject of managements' and specialists' needs as a background for wage and salary administration, the important subjects of program determination and program control cannot be passed over in a mere one hundred words or so. Most of the pitfalls which the wage and salary administrator discovers are in the areas of top management support and control of the use of the plan.

These examples of the treatment of important aspects of job evaluation lead one to the conclusion that Mr. Stanway has attempted to produce a capsule plan without giving his readers the benefit of validating data. I do not suggest that there are not basic procedures and methods which should apply in almost every circumstance but I do feel that there are better sources of in-

formation on these basic techniques than those the author of this book has taken the time to present. He implies, moreover, that the technology of job evaluation is the simplest part of the wage and salary program. Parts of the other important aspects of such a program are scarcely mentioned.

The conscientious worker in this field has as a primary responsibility the establishment of sound and tested programs and techniques aimed at fair managerial policies, fair pay for a fair day's work, and improved employee morale. Progressive managements do not need capsule treatments. Managements which have not yet become "modern-minded" can do great harm to sound and tested industrial relations practices by living through a poorly conceived program which fails. Such failures do more harm than the good done by ten successful programs in the hands of forward-looking executives. Writers in the field of industrial relations, accordingly, are constantly challenged by the question, "Can what I am trying to set as a standard fail in practice?" When the answer is "yes" every writer is morally bound to try to resolve the question in the direction which will prevent failure. This reviewer does not believe that *Applied Job Evaluation* meets this challenge.

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Administrative Behavior, by Herbert A. Simon. Macmillan, New York, 1947. 259 pages. $4.00.

PROFESSOR SIMON has written a closely reasoned work that will certainly be of interest to all students of administration. He approaches the subject from psychological and sociological as well as structural or anatomological points of view. For instance, he analyzes decision-making and authority in terms of psychological influences, both external and internal, as well as in terms of organization structure. And he discusses both the sociology of administration and the practical science of administration.

The author thinks that an entire reformulation of administrative theory is necessary. However, he does not attempt to undertake the entire job in this one book. This volume attempts only the first step in the reconstruction of administrative theory—the construction of an adequate vocabulary and analytic scheme.

In order to accomplish his objective, Professor Simon first discusses in turn each of the several "principles" of administration as set forth by previous writers on this subject. Such principles as specialization, unity of command, span of control, and organization by purpose, process, clientele or place are reviewed and their ambiguities assailed. He then undertakes to enlarge on them with the conclusion that each should be taken into consideration—but not given priority. "A valid approach to the study of administration requires that *all* the relevant diagnostic criteria be identified . . ." and that weights be assigned to the several criteria when they are mutually incompatible (page 36).

If any students of administration or practical administrators have been operating on the theory that one or another of these principles was to govern alone or be given consistent priority or weight, he has now been set straight.

However, this is not the whole of Professor Simon's contribution. He is concerned with the significance of the analytic process for the making of administrative decisions and he goes on to a discussion of "fact" versus "value" in decision-making.

Indeed Professor Simon's ideas concerning value and fact are the matrix of his thesis. The subsequent development of his new, reformulated administrative theory grows out of his contention that analysis is limited by the value concepts of the analyst. He maintains, for instance, that "it is impossible for the behavior of a single, isolated individual to reach any high degree of rationality." Thus, "one function that organization performs is to place the organization members in a psychological environment that will adapt their decisions to the organization objectives" (page 79).

Decisions then are only correct if they are based on fact and are consistent with the frame of reference that has been organizationally assigned to the decider. Thus a fact somehow achieves a value—not the individual's personal criterion of value but the organizational or institutional criterion of value or the "general social value" (page 199).

For a complete understanding of what the author is driving at, one should have a prior knowledge of the conclusions reached by a school of modern philosophy—logical positivism. However, if one is able, finally, even without that, to grasp the author's distinction between "factual" and "value" elements in decision, one can proceed from there. Perhaps an oversimplification is that these distinctions are more clearly drawn between questions of policy and questions of operation.

Professor Simon writes from a background of political science and public administration. He includes frequent references, however, to situations in industrial, business and social or voluntary organizations which make this book of interest to administrators in all fields.

On the other hand, except for those who like to take their discussions on the high level from whence the

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particular shrinks into expressions of abstract theory, it may prove hard sledding for many a "practical" administrator. As Chester I. Barnard observes in his foreword, it has not yet been demonstrated that general knowledge of administrative behavior or organization is attainable or that general knowledge, even if obtainable, influences on-the-job behavior. There is thus some question concerning the usefulness of this kind of a book for men of affairs, men who are actually dealing day in and day out with concrete situations. However, for those who like to test their own general conclusions arising from their own specific experiences in terms of the carefully thought through abstractions of the philosophers of administration, this book will prove of keen interest. I, for one, look forward to the further expositions of the reformulation of administrative theory toward which Professor Simon is working.

EVELYN BUCKLEY
Management Consultant
New York

Union-Management Cooperation, Experience in the Clothing Industry, by Kurt Braun. Brookings Institution, Washington 1947. 259 pages. $3.00.

THERE is a lot of talk about good will in industrial relations. Platitudes and wishful thinking are plentiful. Some see no obstacles to a better cooperation between labor and management, others are skeptical as to whether any cooperation can exist. Punitive legislation jeopardizes cooperation; when the unions feel they are fighting for their lives joint action becomes difficult if not impossible. Kurt Braun's book shows that while human nature in industrial relations cannot be repealed it can be educated. The best sort of education, of course, is education applied in action.

The author has made a detailed and meticulous study of the clothing industry, supported by a wealth of statistical tables. He examines the early struggles, the mutual suspicions and rivalries, the strikes which preceded the establishment of collective bargaining. From 1910, in the women's garment industry, collective bargaining has been generally recognized as a fundamental part of industrial relations. At the moment it is probably operating on a wider base and more effectively than ever before, most notably in the provision of health and welfare facilities.

Union-management cooperation is carefully defined. Mr. Braun is aware of the peculiarities of the clothing industry. He examines painstakingly, in the separate areas of wages, employment conditions, trade practices, salary promotion and welfare, how union-management

cooperation has been applied and he shows how these procedures were worked out over a long period until they became integral to the functioning of the clothing industry.

The author is a realist. He recognizes that it is possible for the old civil war of strikes and lock-outs to come back if the country suffers a severe depression. He states plainly that the buyers and sellers of labor power stand on opposite sides of the bargaining counter. He also notes the part the government agencies have played in the industry and he is sympathetic to the possibility of workers sharing in the increased productivity achieved by cooperation between unions and management.

It is fortunate, incidentally, that Mr. Braun's book is likely to run into a second edition: he will have an opportunity to bring his statistics on the strength of the Amalgamated Clothing Workers and the International Ladies' Garment Workers' Union up to date and to correct some minor factual errors. A clerical error apparently increased ten-fold the number of employers under union contract; the figure should be 9,000.

Trade union leaders and representatives of management, as well as students, should read *Union-Management Cooperation.* It demonstrates that a sense of public responsibility, mutual understanding and respect can be developed and that employer and employee in a complex, small-scale seasonal industry can find a working basis to their common benefit and to the benefit of the public. If it can be done in the clothing industry, why not elsewhere?

MARK STARR

Educational Director
International Ladies' Garment Workers' Union

Improving Supervision, by Frank Cushman and Robert W. Cushman. Wiley, New York, 1947. 232 pages. $2.50.

THE name Frank Cushman has been well and favorably known for over thirty years to practically every one interested in developing training programs for supervisors and foremen. He has written several excellent books on improving foremanship and various other phases of industrial training. Robert W. Cushman, his son, has assisted his father professionally for a number of years. Their book, *Improving Supervision,* is intended primarily for reading and study by foremen and supervisors. It may be used effectively in connection with foreman and supervisor training courses.

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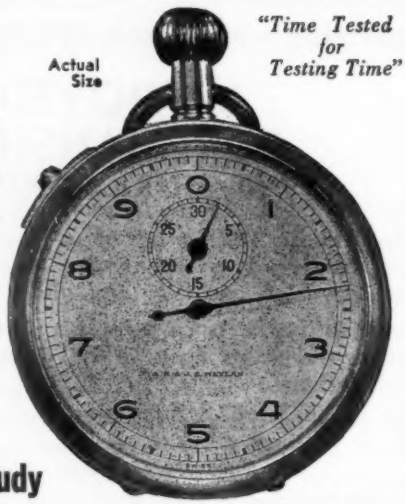

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Over-functionalization in supervision is severely condemned, perhaps too severely; but a good case is made later for a reasonable amount of "staff" assistance to the foreman. Some common causes of friction between line and staff in supervision are discussed and suggestions are given for the elimination of the friction.

Chapter VI, "Analyzing the Supervisor's Job," contains a list of fifteen typical responsibilities of supervisors; these are discussed in later chapters under seven headings: (1) stock, (2) tools and equipment, (3) operations and processes, (4) the working force, (5) information, (6) instruction and training, (7) cooperation in management.

The principal emphasis throughout the book is given to matters associated with human relationships. Most of the discussion centers around the working force, instruction and training, and cooperation in management. This is as it should be because that part of the supervisor's job which has to do with problems of human engineering is essentially the same everywhere, whether in shop, office or store.

The three chapters on "Job Training," "Job Interest" and "Job Satisfaction" are especially interesting and valuable. In these the authors have summarized clearly and forcefully the best of what they have gathered from many years of study of these vital phases of personnel supervision. Their discussion of Allen's justly famous "four steps" is outstanding in its practical helpfulness to the supervisor who will use these four steps in training employees. The last eight chapters discuss some of the supervisor's every-day problems such as carelessness, accident prevention, absenteeism and grievances.

Improving Supervision is practical and down-to-earth throughout. Foremen and supervisors in all types of business will profit from reading it.

GEORGE D. HALSEY

Personnel Officer
Third District, Farm Credit Administration
Columbia, S. C.

Labor-Management Cooperation, by E. J. Lever and Francis Goodell. Harper, New York, 1948. 143 pages. $2.50.

A MANAGEMENT engineer, Francis Goodell, and a former labor union official and educator, E. J. Lever, have put their heads together to produce a valuable manual on labor-management cooperation and how to achieve it. Both of the authors were active in the development of the labor-management production committees during the war period and are conversant from personal experience with the weaknesses and

strengths in the practical application of their program.

The broad, favorable response to the National Planning Association's study on "The Causes of Industrial Peace" indicates that thousands of companies and unions have reached that stage in their collective bargaining relationship which they believe to be stable and healthy. For these companies and unions, the authors offer a blueprint designed to fit their future needs. Perhaps it is too brief, for only a few short paragraphs are devoted to the climate under which the structure they propose can be built and function properly. Union-management cooperation is an advanced stage of a collective bargaining relationship. It represents the coming of age of organizations of workers and the management hierarchy with the broadest possible development of that area in which we find a mutuality of interests. For unions it is a change from bargaining over the division of scarcity to sharing responsibility and working best with employers. For management it is the channeling of their employees' good will and ingenuity toward the goal of greater productive efficiency. And for both, it is the developing of teamwork to increase practical efficiency and to share creative wealth.

Does this sound too good to be true? In general, management and organized labor seem to think so for, except during a national or individual company emergency, they have shunned the idea almost like the plague. Yet, as the book so forcefully documents, when the simple rules Lever and Goodell prescribe are applied with sincerity and understanding, the results are most gratifying.

If we are to believe the reports of most competent engineers, the overwhelming majority of American industry is operating at something under sixty percent of possible efficiency. Many are lower and even the best seldom exceed eighty percent. Here then is a field for action. A joint production committee, enjoying the confidence of the union membership and of management, can, as many have done, make the best plants better and can, as many more have before and since the war, restore profitability to companies verging on bankruptcy. Yet this area of accomplishment lies in a clearing between two high walls. For management the barrier usually is pride and the fear for its prerogatives. For labor it is suspicion and the fear for job security. Neither wall is essentially real; both can be pierced by faith, confidence and mutual understanding. Yet large numbers of joint production committees, established and proved during the War Production Board days, have been dissolved. Some new joint production committees have been created, but in most instances only to save

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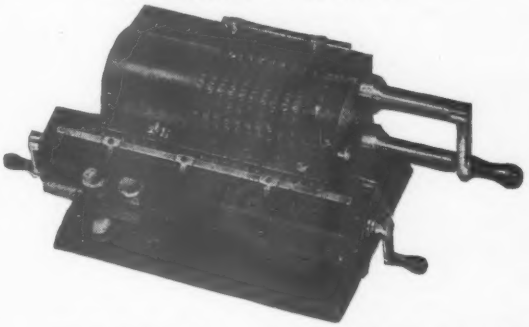

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an enterprise tottering on the brink of oblivion. For those companies and unions that have reached a stage of maturity and stability in their collective bargaining relationship and at times are perhaps wondering where to go from here, the answer may be found in the Lever and Goodell blueprint.

JOSEPH N. SCANLON

Industrial Relations Section
Massachusetts Institute of Technology

Patterns of Union-Management Relations, by Frederick H. Harbison and Robert Dubin. Science Research Associates, Chicago, 1947. 229 pages. $3.75.

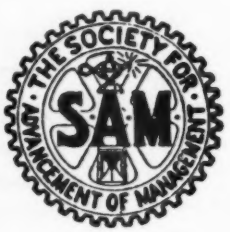
THIS study, made by two members of the staff of the Industrial Relations Center of the University of Chicago, is a valuable contribution to labor research. It makes available the details of two interesting situations and the backgrounds in which they had their roots and it experiments with a new approach to the appraisal of unionism in the American business enterprise system.

Accepting as a basic thesis the concentration of economic power in a relatively few large corporations and the influence of these corporations on the smaller concerns in industry, the authors chose for specific study the labor-management relationships in one large pattern-setting corporation and in one smaller company "operating within an economic environment created to a great extent by the larger units." The employees of both concerns, General Motors Corporation and the Studebaker Corporation, are represented by the United Automobile Workers—C.I.O.

The assumption of the predominant importance of size and "power centers" in the evolving relationships sets a pattern for research which has both advantages and disadvantages. Such an approach gives emphasis to the political and social as well as the economic implications of collective bargaining. It makes it impossible to overlook the almost inevitable growth of big unions interested in broad issues to balance the strength of big corporations and their influence on broad national problems. But, unfortunately, it also influences the researcher to give attention principally to the differences between companies that result from size and to overlook or minimize important elements in the individual situation which may be totally unrelated to size.

There is no doubt as to the pattern-setting role of the power center in regard to wages. Also the very fact of bigness may be responsible for certain attitudes on the part of management and union and for the greater formality insisted upon in collective bargaining by the big corporation. But certain other elements revealed in these two studies appear to have little if any connection with the size of the corporation. The insistence of General Motors, for instance, in making a distinction between its employees and the union and the contrasting willingness of Studebaker to use the union as the principal channel of communications with its employees would seem to have no direct relationship to size. Yet this attitude is inextricably bound up with the question of union "status" which can be satisfactory and forgotten or unsatisfactory and a continuous block to friendly, day-to-day dealings.

In spite of weaknesses inherent in the pre-determined emphasis on the power-center concept of labor relations, this study deserves careful reading by company and union executives and wide use in courses in collective bargaining and trade unionism. Whether considered in the special framework in which they are treated by the authors or as individual cases, these descriptions of union relationships with the General Motors Corporation and the Studebaker Corporation provide material for a better understanding of the problems involved in the search for stable and constructive union-management relations.

HELEN BAKER

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